Systematic Parasitology (2005) 61: 1–46
DOI 10.1007/s11230-004-6343-9

Synopsis of the species of *Myxobolus* Bütschli, 1882 (Myxozoa: Myxosporea: Myxobolidae)

J.C. Eiras[1], K. Molnár[2] & Y.S. Lu[3]
[1]*Departamento de Zoologia e Antropologia, Faculdade de Ciências and CIIMAR, Universidade do Porto, 4099-002 Porto, Portugal*
[2]*Veterinary Medical Research Institute, Hungarian Academy of Sciences, POB 18, H-1581 Budapest, Hungary*
[3]*State Key Laboratory of Freshwater Ecology and Biotechnology and Laboratory of Fish Diseases, Institute of Hydrobiology, Chinese Academy of Sciences, Whuan, Hubei, 430072, P.R. China*

Accepted for publication 2nd July, 2004

Abstract

A synopsis of 744 nominal species of *Myxobolus* Bütschli, 1882 (Myxozoa, Myxosporea, Myxobolidae) is presented. For each species, the relevant morphometric and morphological data are indicated, as well as the host(s), site(s) of infection within the host and type-locality.

Introduction

Myxobolus Bütschli, 1882 is the largest genus within the Myxosporea. Landsberg & Lom (1991) listed 444 valid species, since which a large number of species have been described. These parasites primarily infect fishes, but a small number of species have been found parasitising amphibians and reptiles.

The species descriptions are scattered in a wide number of journals, some of them difficult to obtain. There are several compilations of species of *Myxobolus* (see Hoffman et al., 1965; Grinham & Cone, 1990; Cone & Raesly, 1995; Gioia & Cordeiro, 1996; Fomena & Bouix, 1997; Chen & Ma, 1998). However, these compilations include only the parasites of certain groups of fish, or parasites infecting fish from a particular geographical area. Therefore, when examining new material, comparison with known species may not be easy. For these reasons, the present authors considered that a synopsis of *Myxobolus* species, which included as much data as possible, would be useful. Consequently, such a synopsis, with tabulated data on spore dimensions, morphology, site of infection within the host, type-host and type-locality, is presented here (Table 1).

For the great majority of the species, the data were taken from the original descriptions. When this was not possible, alternative sources were used, as indicated in the table. Species not sufficiently characterised, and therefore not permitting comparison with other species, were not incorporated into the list. These include *M. unicapsulatus* (Gurley, 1893), *M. mugilis* (Perugia, 1891), *M. merlucii* (Perugia, 1891) and *M. musculi* Keisselitz, 1908.

The authors are aware that, despite their considerable efforts, it is probably not possible to include all the described species, as a small number may have been inadvertently overlooked. It is hoped, however, that such omissions have been kept to a minimum.

A great number of species was described by the original authors only on the spore morphology without data on the size and site of the plasmodia. Moreover, the occurrence of some other species with morphologically similar spores have been recorded from phylogenetically distant fishes. The validity of such species is rather dubious. Nevertheless, the authors believe that it is not the task of the present work to indicate any possible synonymy but to accumulate the necessary data for specialists working on selected groups.

Table 1. Features of *Myxobolus* species.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. abbottinae Ma et al., 1982	16.2 (15.1–17)	9.1 (8.5–10.2)	8.5	9.2 (8.5–10.2)	5.8 (4.2–5.9)	≠		B			gall-bladder	*Abbottina kiatingensis*	China	
M. abitus Li & Nie, 1973	7.9 (7.2–8.6)	9.5 (9.0–9.8)	5.3 (4.8–5.4)	4.5 (4.2–4.8)	3.3 (3.0–3.6)	≠	5–6	D	0.336–0.5 × 0.56–0.182	f	almost all organs	*Aristichthys nobilis*	China	139
M. absonus Cellere et al., 2002	15.7	10.2		6.4	3.6	≠	5	B	1–2	a	free in opercular cavity	*Pimelodus maculatus*	Brazil	1
M. acanthogobii Hoshina, 1952	9.8 (7.9–11.8)	8.0 (6.6–9.5)	6.1 (5.3–7.1)	3.5 (2.9–4.2)	2.2 (1.8–2.9)	=		B	0.09–0.8 × 0.07–0.5	k	surface nervous system	*Acanthogobius flavimanus*	Off Japan	
M. acanthopagri Lom & Dyková, 1994	9.5 (9–10.2)	7.5 (7.1–7.8)	5.4–6.5	4.1 (3.2–4.4)	2.4 (2–2.6))	=	3	B	up to 2 × 4	b	subepithelial connect. tissue	*Acanthopagrus australis*	Off Australia	82
M. acanthorhodi Nie & Li, 1973	10.2 (9.6–10.8)	6.8 (6.0–7.2)	5.0 (4.8–5.2)	4.7 (3.8–5.4)	2.5 (2.4–2.6)	≠	6–7	B	0.1	c	almost all organs	*Acheilognathus chankaensis*	China	144
M. acheilognathi (Fujita, 1927) Landsberg & Lom, 1991	9	6	12	5.5		≠		A	0.5–0.75	a	skin	*Acheilognathus lanceolatum*	Japan	174
M. acheilognathusi Ma & Zhao, 1998	10.2 (8.8–11.2)	6.8 (6.4–8.8)	5.5 (5.4–5.6)	4.4 (4.0–4.8)	2.2 (1.6–2.4)	=		A	0.16 × 0.12	b	gills	*Abbottina rivularis*	China	
M. achmerovi Shulman, 1966		9–10		4–5.3	2.3–3.5			E				*Mugil soiyu, M. cephalus*	Off Russia	173
M. acinosus Nie & Li, 1973	12.6 (10.8–13.2)	6.4 (5.6–7.2)	5.3 (4.8–6.0)	5.3 (4.8–6.0)	2.8 (2.4–3.4)	≠	5–6	B	0.01–0.015 × 0.3	c, h	gills	*Cyprinus carpio haematopterus*	China	135
M. acrossocheilusi n. comb. for *Myxosoma acrossocheilusi* Ma & Zhao, 1992	8.8 (8.0–9.6)	7.2 (7.0–7.3)	4.0 (3.2–4.8)	4.0 (3.8–4.2)	1.6 (1.5–1.8)	=		A	0.1055 × 0.05275	c, d	kidneys	*Acrossocheilus yunnanensis*	China	
M. acutus (Fujita, 1912) Landsberg & Lom, 1991	8–10	7–8	5–6	5	4			E			gills	*Carassius auratus gibelio*	Japan	
M. aeglefini Auerbach, 1906	10.8–11.7	9.9–10.4	7.2–9	4.5–5				E			head cartilage	*Melanogrammus aeglefini*	Off Germany	
M. africanus Fomena et al., 1985	15.5 (13.6–17.5)	7.3 (5.7–9.0)		6.6 (5.5–9.5)	2.4 (1.6–3.5)	=	5–6	A	variable	b	brain	*Hepsetus odoe*	Cameroon	98
M. agolus Landsberg, 1985	10.7 (9.8–11.6)	8.4 (7.5–9.2)	6.6 (6.1–7.1)	6.9 (6.1–7.4)	3.4 (3.1–3.8)	=	10–11	A			kidneys, spleen	*Oreochromis aureus* × *O. niloticus*	Israel	2
M. aisanensis Chen in Chen & Ma, 1998	11.0 (10.8–12.0)	9.6 (9.4–10)	6.2 (6.0–6.6)	5.0 (4.6–5.4)	3.4 (3.2–3.6)	=	5–6	C			skin, gills	*Rhinogobius giurinus*	Off China	128
M. alacaudatus Yukhimenko, 1986	13.7–15.8	7.4–9.5	7.3–9.5	5.3–7.4	3.1–4.2	≠		B	0.1–1.25	a, c	gills, muscles, fins	*Carassius auratus gibelio*	Amur basin	207
M. albovae Krasilnikova in Shulman, 1966	10.5–13	8–9.5	6–6.5	4.8–5.5	2.7–3.3			E	0.5	a	gills	*Leuciscus leuciscus baicalensis*	Russia	
M. alburni Donec, 1984	12–15.3	10–12	5.5–6.5	6.8–8.1	3–3.5	≠		E	0.05–1	a, b	fins	*Alburnus alburnus*	Russia	175
M. aldrichetti Su & White, 1994	9.7 (8.4–10.5)	7.7 (7.0–8.4)		4.7 (4.2–5.2)	2.8 (2.8–3.0)	=	6–7	A	0.85–1	h	gills	*Aldrichetta forsteri*	Off Australia	
M. algonquinensis Xiao & Desser, 1997	14.7 (13.6–15.4)	10.9(10.1–12.1)	5.8 (5.0–6.9)	5.3 (5.1–5.5)	2.7 (2.5–2.9)	=	4–6	B	up to 9	b, d	ovary	*Notemigonus crysoleucas*	Canada	
M. alienus Konovalov, 1967	9.5–11	8.3–9.5	6.6–7	4–4.4	2.2–2.6	=		E	0.5	b	wall of gall-bladder	*Esox lucius*	Russia	

M. alievi Gasimagomedov, 1970	14–15	11–12	8	6.5–8	3.5–4.5	≠		E	0.5–1	b	muscles	*Rutilus rutilus caspicus*	Russia	176
M. aligarhensis Bhatt & Siddiqui, 1964	11.4–15.0	6.0–7.9		7.6–9.2	1.2–2.2	=		A	1.5–2.0 × 0.43–0.55	b	accessory respirat. membrane	*Ophiocephalus punctatus*	India	
M. allotypica Chen in Chen & Ma, 1998	10.9 (10.2–12)	8.8 (7.2–9.6)	6.0 (5.3–6.7)	5.5 (4.8–6.0)	3.6 (3.4–3.8)	≠	5–6	D	0.03 × 0.024	b, h	gills	*Hypophthalmichthys molitrix*	China	
M. amieti Fomena et al., 1985	14.0 (11.3–15.8)	7.4 (5.4–8.7)		8.4 (6.0–10.0)	1.9 (1.4–2.5)	=		A	0.13–0.265 × 0.125–0.25	a, b	spleen, eye	*Ctenopoma nanum*	Cameroon	96
M. ampullaceus Lalitha Kumari, 1969	9.8 (8.6–10.7)	7.1 (6.4–7.9)		5.8 (5.0–6.4)	2.8 (2.5–2.9)	=	5–6	A			dorsal and ventral fins	*Barbus kolus*	India	
M. amurensis Akhmerov, 1960	9–13.5	9–12.5		4.5–7	3.8–4.2	=,≠		E			fins, gut	*Cyprinus carpio haematopterus*	Amur basin	188
M. andhrae (Lalitha Kumari, 1969) Landsberg & Lom, 1991	13.5 (12.1–15.7)	6.4 (5.7–8.6)		9.0 (8.6–10.0)	1.7 (1.4–2.1)	≠		A	1		outer wall of intestine	*Ophiocephalus punctatus*	India	3
M. anguilli Wu, 1977	10.8–12.4	10.8–12.0	5.6–6.4	4.8–5.6	3.2–4.0	=	7–8	D	0.1–0.3	b, c	gills, mouth	*Anguilla japonica*	China	
M. angustus Kudo, 1934	14–15	7–8	6–7	8–9.5	2.5–3	=		A	0.15 × 0.06 to 0.26–0.1	h	gills	*Cliola vigilax*	USA	
M. anisocapsularis Shulman, 1962	10.5–15.5	7.7–8.4	6–7.1	6–8.5	4	≠		E	2	d, n	gills	*Hemibarbus labeo*	Amur basin	177
M. anomaliformis Chen in Chen & Ma, 1998	11.7 (10.8–13.2)	8.3 (7.6–8.6)	6.1 (6.0–6.2)	5.5 (4.8–6.0)	3.3 (3.0–4.2)	≠		D	0.215 × 0.182	b, c	gills	*Abbottina rivularis*	China	146
M. arabicus Kardousha & El-Tantawy, 2002	8.0–10	6.0–7.0		2.0–4.0		=	5–7	A		a	body-cavity	*Plectrorhynchus schotaf*	Off Qatar	
M. arcticus Pugachev & Khokhlov, 1979	14.3–16.5	9.5–10.3	7.6–7.7	6–6.9	2.5–3 .5	=		E		c, d	brain	*Oncorhynchus* sp., *Thymallus* sp.	Siberia	178
M. argentatus nom. nov for *M. gnathopogoni* Ma, 1998	11.0 (10.6–11.3)	7.8 (7.2–8.4)	5.5	5.7 (5.6–5.8)	2.9 (2.8–3.0)	=		A			spleen	*Gnathopogon argentatus*	China	286
M. argenteus Lewis, 1968	13.9 (12.7–14.7)	8.6 (8.5–9.7)	6.4 (5.7–7.4)	5.6 (5.1–6.3)	2.9 (2.8–3.4)	=	6–8	A	0.3–0.4 to 3.0 × 3.7	b, c		*Notemigonus crysoleucas*	USA	4
M. argus nom nov. for *Myxosoma elliptica* Nie & Li, 1992	13.0–15.0	9.4–9.8	7.0	4.2–5.0	2.8–3.0	=		D			intestine	*Channa argus*	China	249
M. aristichthydis Nie & Yin, 1973	17.4 (16.8–18)	13.3 (12–14.4)	9.8 (9.6–10.2)	11.5 (10.8–12)	8.3 (7.8–9.0)	≠	6–8	D	0.55	b, c	gills, intestine, spleen	*Aristichthys nobilis*	China	138
M. artus Akhmerov, 1960	6.5–6.8	9		4	1.8–2	=		E			kidneys	*Carassius auratus gibelio*	Amur basin	
M. associatus Nemeczek, 1926	15	10		7				E		a, b	kidneys	*Leporinus mormyrops*	Brazil	
M. asymmetricus (Parisi, 1912) Landsberg & Lom, 1991	10–11	6.5–7		5		=		D			kidney connective tissue	*Crenilabrus pavo*	Off Italy	
M. attui Sarkar, 1985(a)	13.9 (12.8–15.2)	8.5 (7.5–9.6)		5.9 (4.8–7.2)	3.0 (2.4–4.0)	=	6–7	A			intestine	*Wallago attu*	Bangladesh	
M. atypicus Nie & Li, 1973	14.7 (13.2–16.8)	10.5 (8.5–10.8)	7.0–8.4	8.4 (7.4–9.6)	5.8 (5.4–6.0)	≠	6–7	C	0.2887 × 0.21	c	almost all organs	*Aristichthys nobilis*	China	166
M. auctus Akhmerov, 1960	15	10.5–11	6.5	6	4	=		B			body-cavity	*Hypophthalmichthys molitrix*	Amur basin	240

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. auratus nom. nov. for *Myxobolus orbiculatus* Chen in Chen & Ma, 1998	15.6 (15–16.2)	14 (13.8–14.4)	9.0–9.6	8.3 (7.8–8.6)	5.5 (4.8–6)	=	6–8	D			kidneys	*Carassius auratus auratus*	China	230
M. aureatus Ward, 1919	12.4–13.5	6.5–7.5	5	6–7.5		=	6 -7	A	1–1.6 × 0.8–1.2	b	fins	*Notropis anogenus*	USA	
M. australis Chen in Chen & Ma, 1998	18.4 (18–19.2)	13 (12–14.4)	9.8 (9.6–10.2)	9.3 (8.4–10.2)	4.8 (3.8–5.4)	=	8–9	C			stomach, skin	*Channa maculata*	China	
M. azerbajdzanicus Ibragimov, 1977	18.4–20	13.8–15.7		6.1–7.3	5.2–5.9	=		B	small		gills	*Barbus lacerta cyri*	Caucasus	
M. bagri Negm-Eldim et al., 1999	8.5	5.3		6.1	3.9	=	10–12	A	1.2 × 0.9	b	gills	*Bagrus bayad*	Egypt	
M. baoshanensis Ma in Chen & Ma, 1998	10.7 (10.4–11)	8.3 (8.0–8.8)	6.0 (5.6–6.4)	5.3 (4.8–5.8)	2.9 (2.5–3.0)	≠		B			kidneys	*Barbodes wynaadensis*	China	
M. barbi Tripathi, 1952	12.6–13.5	9.0	5.5–6.3	3.6–4.5	2.7	=		A			skin	*Barbus ticto*	India	
M. barbodesi Ma, 1998	10.7 (10.4–11.2)	7.8 (7.4–8.0)	7.2	5.2 (5.1–5.6)	2.9 (2.8–3.2)	≠		B			kidneys	*Barbodes lacustris*	China	
M. bartai Salim & Desser, 2000	11.0 (10.3–11.4)	10.8(10.0–11.3)	7.1 (6.1–7.5)	6.3 (5.9–7.0)	3.8 (3.2–4.2)	≠	3–4	B	10	d	body wall muscles (intracell.)	*Notropis cornutus*	Canada	68
M. bartoni Kalavati et al., 2000	7.2 (6.4–8.0)	4.3 (4.0–4.8)		3.6 (3.2–4.0)	1.6	=	3–4	C			trunk muscles	*Galaxias maculatus*	Off Falkland Isl.	107
M. basilamellaris Lom & Molnár, 1983	7.7–12.2	7.3–9.9	4.5 (4.2–5)	3.2–5.4	2.2–3.3	≠	5–6	A	0.6–0.9		gills	*Cyprinus carpio*	Hungary	5
M. baueri Chernova, 1970	14–16	9.3–12		5.3–6	2.7–3.3	=		B	0.15–0.42 × 0.1–0.46	b, c	gills, heart, kidneys, liver	*Tinca tinca*	Russia	
M. belligobie Ma & Zhao, 1998	15.3 (14.4–17.6)	11.1 (10–12.8)	8.2 (8–8.8)	8.4 (8–8.8)	4.3 (4–4.8)	=	7–8	A	0.345 × 0.245	h	gills	*Acheilognathus omeiensis*	China	
M. bellus Kudo, 1934	10–11	6.5–7	4–5	4–5	1.5–2	=		A	1.8 × 1.2		integument	*Carpioides carpio*	USA	
M. bengalensis Chakravarty & Basu, 1948	8.5–9.3	6.4–6.8	4.2	4.2–5.4	2.5–3.2	=		A	2.0–4.1	b	gills	*Catla catla*	India	
M. beninensis Sakiti et al., 1991	12.5 (10.5–14)	7.2 (5.5–9)		6.9 (6–8)	2.2 (1.5–3)	=	8–10	A	0.06–0.25 × 0.1–0.3	a, b	gill arch connective tissue	*Saratherodon melanotheron*	Benin	
M. bhadrensis Seenappa & Manohar, 1981	9.5 (8.0–11.0)	7.1 (7.0–8.0)	6.0	3.5 (3.0–4.0)	2.2 (2.0–3.0)	≠		A			muscle	*Labeo rohita*	India	6
M. bhadurius (Sarkar, 1985(a)) Landsberg & Lom, 1991	10.6 (8.8–11.2)	6.3 (4.8–6.7)		5.3 (4.0–6.4)	2.8 (2.4–3.2)	=	5–6	A			gall-bladder	*Wallago attu*	Bangladesh	
M. bibullatus (Kudo, 1934) Grinham & Cone, 1990	14–15	11.5–12.5	6–7.5	7	3.5	=		A	1.25	j	integument	*Catostomus commersonii*	USA	241
M. bilineatum Bond, 1938	10.5 (10–12)	9–10	9–10				7–9	A	0.25–1		brain	*Fundulus heteroclitus*	Off USA	77
M. bilis Akhmerov, 1960	8.5–9	8.5–9		3.5	2.8–3	=		E			gall-bladder	*Carassius auratus gibelio*	Amur basin	
M. bilongi Fomena et al., 1994	15.3 (14–17)	12.2 (11.3–14)		7.4 (6.5–8)	4.8 (4.0–6.0)	≠	9–10	D	0.15–0.7 × 0.13–0.3	j	gills, fins	*Labeo* sp.	Cameroon	93
M. bivacuolatus Narasimhamurti & Kalavati, 1986	9	9		4.2	3.0	=	6–7	A	4–6 × 2–3	d	intestinal muscles	*Clarias batrachus*	India	

M. bizerti Bahri & Marques, 1996	14.2 (14–14.5)	14.2 (14–14.5)		6.5 (6–7)	5.8 (5.5–6)	=	6–7	A	0.22–2.3 × 0.4–0.8	d	gills	*Mugil cephalus*	Off Tunisia	
M. bladderia Chen & Ma, 1998	10.4 (9.8–10.8)	9.1 (8.4–9.8)	6.9 (6.6–7.2)	5.8 (5.4–6.2)	3.4 (3.0–3.6)	=	5–6	B	0.04–0.05 × 0.03–0.047	c	gall-bladder	*Carassius auratus auratus*	China	154
M. bliccae Donec & Toziyakova in Shulman, 1984	10.3–14	8.2–11.8	6.5	5.5–7.9	3–4.5			D	0.5–2.5	a, b	gills	*Blicca bjoerkna, Abramis sapa*	Ukraine	208
M. bondi (Bond, 1939) Landsberg & Lom, 1991	13 (12–13.5)	7	4.5	7	2.5–3	=	8–10	A	1 × 2–3	b	gills	*Esox masquinongy*	USA	
M. bottliformis Chen & Ma, 1998	12.2 (12–13.2)	9.0 (8.6–9.6)	5.5 (5.0–6.0)	4.9 (4.8–5.4)	2.6 (2.4–2.8)	≠		C			skin	*Capoeta semifasciolata*	China	
M. brachysporus (Baker, 1963) Landsberg & Lom, 1991	7.3 (7.0–7.5)	12.5 (12–13.5)		3.1 (2.5–3.8)	2.3 (2.3–2.5)	=		A			spleen	*Tilapia esculenta, T. variabilis*	Uganda	
M. bramae Reuss, 1906	10–12	8–10	4.5–6.5	4–5.5	2.3–3.5	=	4–5	D	0.5–4.5	a,b	gills	*Abramis brama*	Russia	
M. bramaeformis Akhmerov, 1960	11–12	7–7.5		4.5–5	2.8–3	=		B			kidneys, gut	*Hypophthalmichthys molitrix*	Amur basin	
M. branchialis (Markevitsch, 1932) Landsberg & Lom, 1991	6.8–8.4	5.8–6.4	4.0–4.8	2.5–3.2	1.6–2.0	=		E	0.1–0.15	a, b	gills	*Barbus barbus borysthenicus*	Ukraine	
M. braziliensis Casal et al., 1996	10.2 (9.4–10.9)	5.2 (4.7–5.9)	3.6 (3.2–4.0)	5.3 (5.0–5.4)	1.4 (1.4–1.4)	=	9–10	A	0.3 × 0.75	h	base of secondary gill lamellae	*Bunocephalus coracoideus*	Brazil	
M. brevifilis nom. nov. for *Myxosoma chengkiangensis* Ma, 1998	9.4 (8.0–10.4)	7.1 (6.8–7.2)	6.0 (6.8–7.2)	4.8 (4.8–5.0)	2.4 (2.4–2.6)	=	6	A	0.45 × 0.35	b	gills	*Tor brevifilis brevifilis*	China	271
M. bubalis Otto & Jahn, 1943	13.1–14.7	10.2–11.7		5.8–6.3	2.2–2.9	=		C			intestine	*Ictiobus bubalus*	USA	
M. buckei Longshaw et al., 2003	14.0 (12.6–15.4)	11.5 (10–12.4)		7.5 (6.8–8.6)	4.2 (3.3–4.6)	=	11–12	D	0.3–0.6	c, h	intervertebral spaces	*Leuciscus cephalus*	England	290
M. bufonis Upton et al., 1992	9.2 (8.8–9.6)	8.9 (8.6–9.4)	4.0 (3.6–4.4)	4.1 (3.6–4.6)	3.2 (3.0–3.4)	=	3–4	A	up to 0.86 × 0.5		testes	*Bufo maculatus*	Cameroon	
M. bulbocordis Masoumian et al., 1996(a)	19 (17.3–19.6)	15.3(13.8–15.5)	13.8 (13–14.4)	8.4 (8.1–9.2)	5.8 (5.2–6.3)	=		D			heart region	*Barbus sharpeyi*	Iran	8
M. buri Egusa, 1985	10.6 (9.2–11.8)	9.2 (7.9–10.2)	6.6 (5.5–7.3)	4.5 (3.9–5.4)	2.8 (2.5–3.4)	=	3–4	B	0.07–0.40	a, b	brain	*Seriola quinqueradiata*	Off Japan	74
M. burkinei Kabré, 1995	12.2	9.3		6.1	3.5	≠	5	D	0.3–4.5	b, d	fins	*Labeo coubie*	Burkina Faso	94
M. cabedae (Ghittino, 1962) Landsberg & Lom, 1991	8.5–8.7	6.8–7.0	5.0–5.2	5.4–5.6				A			gills	*Leuciscus cephalus cabeda*	Italy	
M. calbasui Chakravarty, 1939	12.4–15	8.2–10	6.2	6.2	4.1	≠		E	0.3–0.35	a	gall-bladder	*Labeo calbasus, L. rohita*	India	9
M. calcariferum Basu & Haldar, 2003	6.6 (6.1–7.1)	6.2 (5.7–6.5)		4.2 (3.8–4.5)	2.3 (2.0–2.7)	=	4–5	A	0.4	c	gills	*Lates calcarifer*	Off India	
M. camerounensis Fomena et al., 1993	16.8 (14–22)	11.9 (10–16)		6.8 (6–8)	3.9 (2.6–4.5)	=	6–7	A			gills, integument	*Oreochromis niloticus*	Cameroon	95
M. cantonensis Chen in Chen & Ma, 1998	13.5 (10.8–16)	10 (8.4–11.2)	7.4–7.8	8.9 (6–10.8)	3.7 (3.1–4.8)	≠	6–7	B			gills	*Carassius auratus auratus*	China	
M. capoeta Chen in Chen & Ma, 1998	14.4 (14.2–14.8)	8.4 (8.2–9.6)	6.2 (6.0–6.4)	5.1 (4.8–5.4)	2.8 (2.6–3.0)	=	6–7	B			gills	*Capoeta semifasciolata*	China	

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M capsulatus Davis, 1917	10–11	16		11	4			A			visceral connective tissue	*Cyprinodon* sp.	USA	
M. carassii Klokachewa, 1914	13–17	8–10	5–7	6–7		=		E			liver, intest., body-cav.	*Carassius carassius*	Russia	
M. carnaticus Seenappa & Manohar, 1980(a)	8.6 (8–9)	6.8 (6–7)	5.3 (5–6)	3.8 (3.5–4.0)	2.0	≠		D		e, l	inner base of hemibranchs	*Cirrhina mrigala*	India	80
M. cartilaginis (Hoffman et al., 1965) Landsberg & Lom, 1991	10.2 (9.5–10.5)	8.9 (8.4–9.5)	6.4 (6.3–7.3)	5.3 (5.2–5.6)	3.3 (3–3.5)	=	5–7	A	0.42–1.5	b, c	head cartilage	*Lepomis macrochirus*	USA	10
M. catlae Chakravarty, 1943	14.5–16.5	6.1	5.1	10.3–12.3	2.0–3.1	=		A	0.045–0.15	a, b	gills	*Catla catla*	India	11
M. catostomi Kudo, 1923	10–12.7	7.6–10		3.6–5.5	1.3- 2.7	=		E		d	muscles	*Catostomus commersonii*	Canada	111
M. caudatus Ali et al., 2002	17.5 (16.0–19.2)	12.8 (11.0–13.6)		7.4 (6.4–9.0)	3.8 (3.2–4.5)	=	8–9	D	0.5 (0.4–0.6) × 0.3 (0.2–0.3)	b	tail fin	*Barbus bynni*	Egypt	
M. cephalus (Iversen et al., 1971) Landsberg & Lom, 1991	14.1 (14–15)	11.0 (10–11)	9.0 (8–10)	4.7 (4–5)	3.2 (3–4)	=	4–5	A	0.3 × 0.2–2.4 × 11.5	a, f	brain meninges, gill arches	*Mugil cephalus*	Off USA	12
M. cerebralis Hofer, 1903	9	7	4			=	5–6	A			brain cartilage	*Oncorhynchus mykiss*	Germany	
M. chakravarti Haldar et al., 1983	12.3 (12.2–14.3)	8.8 (7.7–10.5)	8.7 (8.2–8.8)	5.6 (5.5–6.6)	4.3 (3.3–5)	≠	8–9	A	0.39–0.44 × 0.22–0.28	c, f	eye muscles	*Catla catla*	India	113
M. changkiangensis Chen in Chen & Ma, 1998	12.2 (10.8–13.4)	8.8 (8.4–9.6)	7.2 (6.8–7.6)	6.7 (6.0–7.2)	3.4 (3.1–3.6)	=	5–6	B			gall-bladder	*Carassius auratus auratus*	China	
M. changshaensis Chen in Chen & Ma, 1998	10.3 (9.8–12)	8.3 (7.8–8.6)	6.0 (5.8–6.2)	4.3 (3.6–4.8)	3.7 (3.6–3.8)	≠	4–5	D			gills	*Hypophthalmichthys molitrix*	China	
M. changshingensis Chen in Chen & Ma, 1998	10.4 (9.6–11.0)	9.1 (8.4–9.6)	6.0	4.9 (4.6–5.4)	2.9 (2.4–3.1)	=	5–7	C			intestine, kidneys	*Hypophthalmichthys molitrix*	China	129
M. changshouensis Ma et al., 1982	9.6 (9.1–10.6)	12 (11.5–12.1)	7.6	7.1 (6.1–7.6)	4.9 (4.4–5.4)	=	4–5	D			gills, intestine	*Misgurnus anguillicaudatus*	China	165
M. channai (Kalavati, 1981) Landsberg & Lom, 1991	14.5–18	6–6.5		9.0–10.8	2.8–3.2	≠	8	A	0.8–0.1	a, b	fins, body muscles, kidneys, liver	*Channa punctatus*	India	104
M. charii Fomena, 2004	14.0 (13–15.5)	11.4 (10.5–12)		7.6 (6.4–8.5)	3.8 (3.2–4.2)	=	8–10	B	0.35 × 0.23	b	skin	*Citharinus citharus*	Tchad	
M. cheisini Shulman, 1962	12.5–13.6	7–8.5		7–7.5	2.5–3	=		D	0.3		gills	Snake-head mullet	China	288
M. chekiangensis Chen in Chen & Ma, 1998	10.2 (9.6–12)	9.2 (8.4–9.6)	6.6 (6.2–7.0)	5.6 (4.8–6.0)	3.7 (3.6–4.0)	≠	4–5	D			gills	*Hypophthalmichthys molitrix*	China	
M. chengkiangensis Ma, 1998	14.7 (13.6–15.2)	9.9 (9–10.5)	8.0	8.6 (8.2–9.0)	3.6 (3.2–4.0)	≠		B			kidneys	*Sinocyclochilus grahami tingi*	Off China	
M. chengpoensis nom. nov. for *Myxosoma hainanensis* Chen in Chen & Ma, 1998	10.4 (10.2–10.8)	7.9 (7.4–8.1)	5.2 (5.0–5.4)	6.0 (5.8–6.2)	2.5 (2.4–2.8)	≠	5–6	B			skin	*Capoeta semifascialata*	China	272

M. cheni Shulman, 1962	8–8.5	6–6.5		4.5–5	2	=		B			muscles	Striped mullet, Pacific mullet	Off China	288
M. chenhshiehi (Chen & Hsieh, 1960) Landsberg & Lom, 1991	13.3 (12–14.4)	7.3 (7.2–7.8)	5.3 (4.8–5.4)	5.8 (4.8–6.0)	2.5 (2.4–2.6)	=	7–8	B	0.06–0.15	b, c	intestine, gills, swim-bladder	*Channa argus*	China	205
M. chenmai nom. nov. for *Myxobolus anguillae* Chen & Ma, 1998	13.1 (12.9–13.2)	6.8 (6.0–7.0)	5.8	6.0	1.8–1.9	=		A			front intestine	*Anguilla japonica*	China	284
M. chernovae (Chernova, 1970) Landsberg & Lom, 1991	12–14	9–11		5.5	3–4	=		E	0.3–0.2	a	gills	*Rutilus rutilus*	Russia	242
M. chimbuensis Ewers, 1973	11.9 (10–13)	8.4 (8–9)	6.2 (6–7)	4.7 (4–6)	2.2 (2–3)	=		D			testes	*Litoria darlingtoni*	New Guinea	
M. chinensis n. comb. for *Myxosoma chinensis* Chen in Chen & Ma, 1998	14.0 (13.2–14.5)	9.9 (9.6–10.8)	7.2	5.0 (4.8–5.4)	2.9 (2.6–3.4)	=	6–7	D			gills	*Misgurnus anguillicaudatus*	China	
M. chinghaiensis Liu et al., 1982	11.0 (7.7–13.6)	8.5 (5.4–10.9)	6.9 (5.8–8.7)	5.9 (4.4–7.6)	3.1 (2.5–4.4)	=	6–11	B	0.64 × 0.29	k	gills		China	163
M. chinsurahensis Basu & Haldar, 2003	8.4 (8.0–9.7)	5.4 (5.1–6.1)		4.4 (3.9–6.6)	2.1 (1.8–2.5)	=	5–6	B	0.059–0.073 × 0.029–0.041		scales	*Anabas testudineus*	India	280
M. chiungchowensis Chen in Chen & Ma, 1998	10.8 (10.2–11.8)	10.5 (9.6–11)	6.2 (6–6.6)	6 (5.6–6.2)	3.6 (3.4–3.8)	=	6–8	C			intestine	*Mugil cephalus*	Off China	
M. chiunghaiensis Chen in Chen & Ma, 1998	14.6 (13.2–15.6)	9.0 (7.8–10.8)	6.6 (6.4–7.2)	6.3 (6.0–7.5)	3.1 (2.6–3.6)	≠	6–7	B	0.0168 × 0.0156	c, e	gills	*Zaco platypus*	China	
M. chondrophilus Nemeczek, 1926	6	4.5	3.5	3		=		E	0.125 × 1	a	gills	*Sardinella anchovina*	Brazil	
M. chondrostomi Donec, 1962	13.5–17	10–11.7		7–9	4–4.5	≠		E	0.05–0.06	b	muscles	*Chondrostoma nasus*	Ukraine	189
M. chuatsi (Dogiel & Akhmerov in Akhmerov, 1960) Landsberg & Lom, 1991	4.5–6	4.5–6	4.5–6	3–3.5	2	=		E			gills	*Siniperca chuatsi*	Amur basin	
M. chuantungensis Ma, 1998	12.3 (11.4–12.8)	8.0 (7.4–8.4)	7.0	7.1 (7.0–7.2)	2.0	≠		A			kidneys, urinary bladder, ureter	*Varicorhinus simus*	China	
M. chuchowensis Chen in Chen & Ma, 1998	12.0 (10.8–13.3)	8.7 (7.2–9.6)	6.0 (5.8–6.2)	5.5 (4.8–6)	3.4 (3.0–3.6)	≠	6–7	C	0.066 × 0.05	c	urinary bladder, gills, kidneys	*Aristichthys nobilis*	China	142
M. chuhkiangensis Ma, 1998	10.6 (10.4–11.2)	7.8 (7–8)	7.0	5.3 (4.8–5.6)	3.5 (3.2–4)	=		A			urinary bladder	*Pelteobagrus nitidus*	China	
M. chungkingensis Ma, 1993(a)	8.9 (8.8–9.6)	7.7 (7.4–8.8)	4.3 (4.0–6.0)	4.5 (4.1–4.6)	2.6 (2.5–3.0)	≠		B	0.5 × 0.3	h	gills	*Xenocypris fangi*	China	
M. chungnanensis Chen in Chen & Ma, 1998	9.7 (8.4–10.8)	8.7 (8.0–9.6)	6.3 (6.0–6.6)	3.9 (3.6–4.8)	2.7 (2.4–2.8)	=	5–6	C			kidneys, gills	*Ctenopharyngodon idellus*	China	
M. circulus (Akhmerov, 1960) Landsberg & Lom, 1991	8.5–12	7.5–12		3.5–6	2	=		E	< 3.4	a	gills, other organs	*Cyprinus carpio*	Russia	
M. chrysichthyi Negm-Eldin et al., 1999	10.2	6.2		4.6	2.4	=	8–10	C	1.2 × 0.4		gills	*Chrysichthys auratus*	Egypt	89
M. clarias Negm-Eldin & Eid in Negm-Eldin, Govedich & Davies, 1999	8.8	6.8		5.8	5.7	=	8–10	E			gills	*Clarias lazera*	Egypt	
M. clarii Chakravarty, 1943	11.3–12.4	10.3	6.1	6.1	3.0	=		A	0.78–0.97 × 0.6–0.87	b	liver, testes	*Clarias batrachus*	India	13
M. coelii Haldar et al., 1996	10.6 (8.3–14.9)	5.4 (4.1–8.4)		5.7 (4.1–9.1)	2.8 (1.7–2.3)	≠		A			gall-bladder	*Chanos chanos*	India	24

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. cognati Cone et al., 1996	13.3 (12–14)	10 (9.5–10.5)	8.5 (8.0–9.0)	6.6 (5.5–7.5)	3.0	=	8–11	A	0.2–0.5	c, d	operculum	*Cottus cognatus*	USA	14
M. colossomati Molnár & Békési, 1993	11.8 (11.4–12.2)	6.9 (6.6–7.2)	3.7 (3.5–4.0)	6.0 (5.8–6.6)	2.1 (1.8–2.5)	=	7–8	C	0.5–2		gills, liver, muscles	*Colossoma macropomis*	Brazil	15
M. commersonii (Fantham, 1939) Landsberg & Lom, 1991	9.5–16.5	7–11.4		7.7	3.2	=		A			skin	*Catostomus commersonii*	Canada	
M. comoei Kabré et al., 1995	11.8	8.9		4.5	2.5	=		A		b	fins, gills	*Clarias anguillaris*	Burkina Faso	
M. compressus Kudo, 1934	12–14	7–10	7–7.5	5	2.5	=		A	0.3–0.6	e	integument	*Notropis blennius*	USA	
M. concentricus (Ozaki & Ishizaki, 1941) Landsberg & Lom, 1991	9.2–9.3	8.4	7.9	3.5	3.1	=	5	A			urinary bladder	*Tridentiger obscurus*	Japan	
M. conei Lom & Dyková, 1994	8.5 (6.7–10)	9 (7.6–10.4)	7.3 (7–7.8)	4.3 (3.2–5.2)	3 (2.5–3.4)	=	4–5	A	up to 0.8		liver, lumen of bile ducts	*Pseudocaranx dentex*	Off Australia	83
M. confirmatus Akhmerov, 1960	9.5	9.5		5.5	3.5	=		E			brain	*Acanthorhodeus asmussi*	Amur basin	
M. congesticus Kudo, 1934	9–10	8.5–9.5	6	5.6	2.5–3.5	=		A	0.3–1	a, e	fins	*Moxostoma anisurum*	USA	
M. cordis Keysselitz, 1908	12	10		4.5		=		B		clavate	heart	*Barbel*		219
M. corneus Cone et al., 1990	9.4 (8.0–10.5)	8.0 (6.5–9.0)		5.3 (4.0–5.5)	2.4 (2.5–3.0)	=	7–8	C			eye	*Lepomis macrochirus*	USA	
M. conspicuus Kudo, 1929	9–11.5	6.5–8	4.5–5.5	5–7	2–2.5	=	˜10	A	0.5–4	c, e	head integument	*Moxostoma breviceps*	USA	
M. cotti El-Matbouli & Hoffman, 1987	12.7–17.7	8.9–10.1		5.1–7.6		=		B			brain	*Cottus gobio*	Germany	
M. couesii Fantham et al., 1939	10.4–13.2	7.7–9.4		4.1–5.5	1.4–3.2	=		A			eye	*Couesius plumbeus*	Canada	
M. cristatus Shulman, 1962	9–10.5	6–8	6–8	5–6	4–6	=,≠		E	0.1–0.2	b	gills, skin, muscles	*Schizitorax intermedius*	Central Asia	190
M. crucifilus (Qadri, 1962) Landsberg & Lom, 1991	9–10	8–8.5		4–4.5				A			gills	*Labeo fimbriatus*	India	
M. ctenopharyngodoni nom. nov. for *M. ovatus* Nie & Li, 1992	11.5–13	6.0–7.0	6.5	4.5–5.5	2.0–3.0	=		B			intestine, spleen, kidneys	*Ctenopharyngodon idellus*	China	169
M. cunhai Penido, 1927	9–11	4–6						E				*Pygocentrus piraya*	Brazil	117
M. cultus Yokoyama et al., 1995	10.2 (9.3–11.3)	6.0 (5.2–7.2)	4.3 (3.6–4.6)	4.0 (3.1–4.9)	1.9 (1.5–2.1)	=	3–5	D			cartilage	*Carassius auratus*	Japan	
M. cuneatus (Bond, 1939) Landsberg & Lom, 1991	10 (9–10)	6 (5–7)	4.5	4–6	1.5–3	=	9–10	A	2–3	a		*Esox masquinongy*	USA	273
M. curmucae Seenappa & Manohar, 1980(a)	9.8 (8–11)	7.6 (7–8)	5.2 (5.0–5.5)	4.1 (4–5)	2.3 (2–3)	=,≠		D		e, l	beneath scales	*Puntius curmuca*	India	81
M. cuttacki Haldar et al., 1996	17.0 (13.0–21.1)	6.4 (4.9–8.1)		8.6 (6.5–13)	2.8 (1.6–4.0)	=	5–8	A			gills	*Cyprinus carpio*	India	

M. cybinae Mitenev, 1971	9.2–14.5	8.8–11.2	6.6–8	5.8–7.5	3.1–4.2	≠		A			brain	*Phoxinus phoxinus*	Russia	231
M. cylindricus (Sarkar, 1985) Landsberg & Lom, 1991	14.3 (12.8–16.3)	4.9 (4.4–6.4)	3.4 (3.2–3.5)	4.4 (4.0–5.2)	1.6 (1.1–2.2)	=		A			kidneys	*Channa gachua*	India	
M. cyprini Doflein, 1898	10–16	8–12		5.2–7		=		E			muscles	*Cyprinus carpio*	Germany	220
M. dahomeyensis (Siau, 1971) Landsberg & Lom, 1991	12	6		4–5				A			ovary	*Synodontis ansorgii*	Dahomey	
M. dasguptai Haldar et al., 1996	14.1 (11.4–19.5)	6.4 (4.9–8.1)		9.1 (7.3–11.4)	2.6 (1.6–4.0)	=		A			gills, body muscles	*Mugil tade*	India	
M. dechtiari Cone & Anderson, 1977	11.5 (10–14)	8 (7–9)	7.5 (7–8)	5 (4–6)	2.5 (2–3)	=	7–8	A	0.3–0.8	d	gill lamellae	*Lepomis gibbosus*	Canada	
M. dentium Fantham et al., 1939	11.8–14.5	5.5–7.3		4.5–7.3	1.3–3.2	=		A	7.5		palate	*Esox masquinongy*	Canada	16
M. dermatobius (Ishii, 1915) Landsberg & Lom, 1991	6.3–7	4.2–4.9		2.8–3.5		=		E	0.142–0.627	c, e	integument	*Anguilla japonica*	Japan	
M. dermitis (Mukherjee & Kundu, 1981) Landsberg & Lom, 1991	10.3 (9–11)	9.4 (8–10)		4.4 (4–5)	2.2 (2–3)	=	6	B	0.5–1		scales	*Labeo rohita*	India	
M. desaequalis Azevedo et al., 2002	18.3 (17.6–19.1)	11.2(10.6–11.9)	4.4 (4.0–5.0)	11.2(10.7–11.9)	4.9 (4.5–5.2)	≠	11–12	A		a, b	gills	*Apteronotus albifrons*	Brazil	184
M. destruens Schuurmans Stekhoven, 1920	9–12	5–7.2	4.8	4–5.8	1.5–2	=		E		h, l	muscles	*Scardinius eryophthalmus*	Germany	
M. diagrammae Kpatcha, 1995	11.2 (9–12)	6.7 (5–5.7)	4.9 (4.5–5.5)	4.1 (3–5.5)	2.6 (2.1–4.2)	=		A			kidneys	*Parapristipoma octolineatum*	Off Senegal	246
M. diaphanus (Fantham et al., 1940) Landsberg & Lom, 1991	15.5–20	5.2–7.6		7.4–9.6	1.5–2.2	≠	11–15	A			testes	*Fundulus diaphanus*	Off Canada	17
M. discapsularis Ha, 1971	12.6–13.5	9–10.8		7.2	3.6	≠		C			gall-bladder	*Hypophthalmichthys harmandi*	Vietnam	18
M. discogobie Ma, 1998	10.5 (9.6–11.2)	9.8 (9.6–10.4)	7 (6.6–7.3)	4.7 (4.2–4.8)	2.6 (2.4–2.8)	=		C			gills	*Discogobio longibarbatus*	China	
M. discrepans Kudo, 1919	11.4–13.5	9.5–11	8.5–9.5	5.5–6	3.5–4	=		B	0.5; 0.5–1		gills	*Carpioides difformis*	USA	
M. dispar Thélohan, 1895	10–12	8		7	5	=		A			gills	*Cyprinus carpio*	France	221
M. disparis n. comb. for *Myxosoma disparis* Ma & Zhao, 1992	11.5 (10.4–12.8)	8.3 (7–10)	7.0 (6.2–8)	7.2 (6.0–7.2)	4.0 (3.8–4.1)	≠		A			kidneys	*Varicorhinus simus*	China	
M. disparoides Shulman, 1962	9–12	6		6–7.5		≠		E			gills, kidneys	*Schizothorax intermedius*	Central Asia	191
M. distichodi Kostoïngué & Toguebaye, 1994	10.6 (10–11)	5.7 (5–6)		4.4 (4–5)	1.8 (1.5–2)	=		E			gills, intestine, liver	*Distichodus engycephalus*	Tchad	
M. distoechodonis n. comb. for *Myxosoma distoechodonis* Wu et al., 1985	8.9 (8.8–9.2)	8.5 (8.1–8.8)	6.5 (5.9–7.3)	5.2 (4.8–5.5)	3.4 (3.3–3.7)	=	4–5	B	1.6 × 0.15	d	gills	*Distoechodon tumirostris*	China	
M. divergens Ha, 1971	14.4–16.2	9- 10		5.4	3.6	=		D		b	gills, skin, liver, spleen, kidneys	*Aristichthys nobilis*	Vietnam	

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. diversicapsularis Slukhai in Shulman, 1966	8.5–13	8.5–12.5	6	3.8–5.5	2.2–3.7	≠		B	0.5	a	gills	*Rutilus rutilus*	Russia	232
M. diversus Nie & Li, 1973	15.4 (13.2–16.8)	9.0 (7.8–9.6)	6.9 (6.6–7.2)	5.8 (4.8–6.0)	3.4 (3.0–3.6)	≠	6–7	B	0.2		gills, kidneys	*Carassius carassius cuvieri*	China	160
M. dogieli Bykhovskaya-Pavlovskaya & Bykhovski, 1940	9–16	8–15	6–7	4–6.5	3.5–4	=		C	10–15 × 1.2–2	e	heart	*Phoxinus percnutus, Tinca tinca*	Russia	209
M. dombrovskaya Akhmerov, 1960	12	10.5–11	6	5	3	=		A			liver	*Sarcochilichthys sinensis lacustris*	Amur basin	
M. donecae Kashkovski in Shulman, 1966	10–13	7.4–8.7		7	3			E	0.07–0.29 × 0.15–1.6	d	gills, ureter	*Leuciscus leuciscus, L. idus*	Russia	179
M. dongshanensis nom. nov. for *Myxosoma kiangsuensis* Ma, 1998	10.3 (9.8–11.4)	7.0 (6.5–8.2)	5.7 (5.0–6.0)	5.1 (4.8–6.5)	2.2 (1.6–3.3)	=		A	0.35	c	gills, liver, spleen	*Aristichthys nobilis*	China	247
M. dossoui Sakiti et al., 1991	9.9 (8.5–11)	9.2 (8–10.5)		5.5 (4.5–6.5)	3.1 (2.5–5)	≠	7–9	D	0.025–0.4 × 0.35–1.2	b, d	gill arches cartilage	*Tilapia zillii*	Benin	100
M. drjagini (Akhmerov, 1954) Landsberg & Lom, 1991	13–14	9–10	6–7	5.5–6	3–3.5	≠		E	1–4	a	skin	*Hypophthalmichthys molitrix*	Amur basin	192
M. dujardini (Thélohan, 1892) Landsberg & Lom, 1991	12–13	7–8						E		d	gills	*Rutilus rutilus*	France	
M. echengensis Chen in Chen & Ma, 1998	14.4 (13.2–15.6)	9.4 (9.0–10.2)	7.2	7.3 (6.6–8.4)	3.5 (3.0–3.6)	=	6–7	C			kidneys	*Carassius auratus auratus*	China	
M. ectopicus Nie & Li, 1992	8.2–9.4	7.0–9.0	7.0	5.0–6.0	2.5–3.0	=		A			urinary bladder	*Cyprinus carpio*	China	
M. eeli Mandal & Nair, 1975	12.5 (10.5–14.0)	9.7 (8.2–11.5)	7.0 (6.5–7.5)	4.5–5.5	2.5–3.0	=	6	A	0.33–0.4 × 0.2–0.3	f	internal intestinal wall	*Mastacembelus armatus*	India	
M. egregius Li & Nie, 1973	17.3 (13.2–19.2)	12.3 (12–13.2)	9.6 (6.0–10.8)	6.0 (4.8–7.2)	4.4 (3.6–6.0)	≠	4–5	B			gills, kidneys, spleen	*Carassius auratus auratus*	China	141
M. egypticus nom. nov. for *Myxobolus intestinalis* Ali et al., 2002	12.5 (12.0–13.6)	8.8 (8.0–9.6)		7.7 (7.2–8.0)	3.3 (3.2–3.6)	=	5–6	B	0.5 (0.3–1.0)		intestine	*Barbus bynni*	Egypt	248
M. elaiodes Nie & Li, 1973	10.0 (9.6–11.7)	7.4 (7.2–8.4)	5.1 (4.8–5.4)	4.6 (4.3–4.8)	2.4 (1.8–2.4)	≠		D	0.015	c	gills, kidneys, intestine	*Cirrhinus molitorella*	China	132
M. elegans Kashkovski in Shulman, 1966	13.5–17	7.4–10	7.4–8	6.8–8	2.5–3.5	=		E	0.17–1.3 × 0.23–0.55	b, c	gills, fins	*Rutilus rutilus, Leuciscus idus*	Russia	180
M. elongatus Fujita, 1924	15	6	9	7	2			A			kidneys	*Carassius carassius*	Japan	
M. ellipsoides Thélohan, 1892	12–15	9–11		4				E			gills, liver, intest., swim-bladder	*Tinca tinca*	France	
M. ellipticoides (Fantham et al., 1939) Grinham & Cone, 1990	11.4–14.1	6.8–8.2		4.5–5.9	1.8–3.2		5–8	A			skin	*Catostomus commersonii*	Canada	241

M. encephalicus (Mulsow, 1911) Landsberg & Lom, 1991	5–5.5	5–5.5				=		E		c	brain	*Cyprinus carpio*	Germany	
M. endovasus (Davis, 1947) Grinham & Cone, 1990	9	8		5	3.3	=		A			gills	*Ictiobus bubalus*	USA	241
M. enoblei Lom & Cone, 1996	14.4 (13.5–15.0)	11 (10.5–11.5)	7.5	8.3 (7.9–8.5)	4.8 (4.5–5)	=	6–7	D	up to 1.5 × 0.3	d	gills	*Ictiobus bubalus*	USA	
M. epalzeorhynchusi Ma, 1998	7.2 (7.2–7.4)	6.2 (6.0–6.4)	5.7	4.0	2.0 (1.7–2.3)	≠		B			gills	*Epalzeorhynchus bicornis*	China	
M. episquamalis Egusa et al., 1990	8.6 (7.5–9.5)	6.8 (6.0–7.5)	5.1 (4.5–5.5)	4.4 (3.8–5.0)	2.2 (2.0–3.0)	=		A		b, e	scales	*Mugil cephalus*	Off Japan	73
M. equatorialis (Landsberg, 1985) Landsberg & Lom, 1991	14.0 (13.1–14.9)	7.8 (7.0–8.6)	5.9 (5.1–6.5)	4.5 (4.0–4.9)	3.4 (3.1–4.2)	≠	4–5	A			spleen, kidneys	*Oreochromis aureus* × *O. niloticus*	Israel	19
M. ergensi Lom, 1969(b)	10–11	8.5–9	6	7–7.5	3.5	≠	4–5	A	up to 0.1		kidneys	*Alburnus alburnus*	Hungary	20
M. erythroculteri Nie & Li, 1992	12.5–14.0	7.4–9.0	6.0–6.5	6.0–7.5	2.4–3.0	=		B	0.9 × 0.7	d	gills	*Erythroculter dabryi dabryi*	China	
M. esocinum (Akhmerov, 1960) Landsberg & Lom, 1991	**10–12**	6–6.3		**6–6.2**	2–2.5	≠		E	1	c	gills	*Esox reicherti*	Amur basin	
M. esomi (Kalavati & Narasimhamurti, 1984) Landsberg & Lom, 1991	**11.2–12.4**	6.8–7.2		**4.8–5.2**	3.0–3.2	≠	9–10	A	0.55–0.8	a	caudal fin	*Esomus* sp.	India	102
M. etsataensis Reed et al., 2002	**13.0 (12.8–15.0)**	6.8 (6.2–8.0)		**7.5 (7.0–8.0)**	2.3 (1.2–2.5)	≠	7–8		"very small"	c	gills	*Barbus thamalanensis*	Botswana	
M. etropli Rajendran et al., 1998	12.2 (10.2–14.5)	10.5 (8.5–11.9)		5.0 (3.8–6.0)	2.4 (1.7–3.4)	=	4–5	A	0.1–2.0	b, c, e	bulbus arteriosus	*Etroplus suratensis*	India	
M. eucalii (Guilford, 1965) Landsberg & Lom, 1991	14.4 (12.0–15.6)	9.9 (8.4–10.8)	6.9 (6.0–7.2)	11.1 (9.6–12.0)	3.7 (3.0–4.8)	=	9–11	A	0.2	a	cranium, pectoral fins	*Eucalia inconstans*	USA	
M. evdokimovae Evlanov, 1981	10–11	8.7–9.2		5–5.2	3.1–3.3	=		C	0.2	a	wall of the mouth	*Coregonus albula*	Russia	
M. exiguus Thélohan, 1895	8–9	6–7				=		A			gills	*Abramis brama*	France	222
M. exsulatus Pugachev, 1980	9.7–9.9	9–9.1		5.4–5.6	3	=		B	0.5–0.7	a	gills	*Catostomus catostomus*	Siberia	
M. fahmii Ali et al., 2002	11.0 (10.8–12.0)	7.1 (6.4–8.0)		6.8 (6.4–7.2)	3.2 (2.8–3.8)	=	6–7	A	0.5 (0.3–1.0) × 0.4 (0.2–0.7)	b, g	gills	*Barbus bynni*	Egypt	
M. fallax Browne et al., 2002	13.4 (12.6–14.6)	9.5 (8.3–10.6)	6.8 (6.5–7)	4.2 (3.3–4.7)	2.4 (2.1–2.8)	=	7–8	A	0.141–0.074 × 0.438–0.337	a, b	testes	*Litoria fallax*	Australia	
M. fanthami (Fantham et al., 1939) Landsberg & Lom, 1991	13.2–17.3	9.5–10.9		4.5–6.4	2.3–3.6			A	8 × 5		body-cavity	*Notropis cornutus*	Canada	
M. farionis Gonzalez-Lanza & Alvarez-Pellitero, 1984	9.1 (8.5–10.0)	6.6 (6.0–7.5)	4.7 (4.5–5.0)	4.8 (4.5–5.5)	2.3 (2.0–2.8)	=	8–9	B			brain, spinal cord	*Salmo trutta f. fario*	Spain	
M. filamentosus (Haldar, 1981) Landsberg & Lom, 1991	13.7 (11.2–17.3)	9.5 (8.1–12.2)		5.8 (4–7.1)	3.1 (2–4)	=	5–6	A			brain meninges	*Puntius filamentosus*	India	103

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. filamentus (Rice & John, 1943) Grinham & Cone, 1990	13.1	16.3		7.8	6.2	=	14–16	B	0.17–0.20	b	gills	*Ictiobus bubalis*	USA	186
M. fobobi nom. nov. for *Myxobolus barbi* Fomena, 1985	10.8 (7.3–13.0)	6.0 (5.0–7.0)		5.9 (5.0–7.0)	1.9 (1.4–2.5)	=	6–9	A	0.06–0.29 × 0.075–0.265	a, b	gills	*Barbus aspilus, B. camptacanthus*	Cameroon	250
M. follius Shulman, 1962	10–12.5	9.5–10	7	7–8.5	3.5–4.2	=		B	4		gills	*Pseudaspius leptocephalus*	Amur basin	
M. foshanensis Chen in Chen & Ma, 1998	10.5 (9.6–11.2)	9.4 (8.6–9.8)	6.6 (6.2–6.8)	5.9 (4.8–6.0)	2.9 (2.6–3.2)	=	6–7	C			kidneys	*Cirrhinus molitorella*	China	
M. fotoi Fomena et al., 1993	14.7 (13.4–16)	11.4 (10–13.8)		4.3 (3.8–5)	3.5 (3.2–4.3)	=	5–6	A	0.215–0.432 × 0.19–0.41	a	gills	*Oreochromis niloticus*	Cameroon	
M. fujitai nom. nov for *Lentospora anguilli* Fujita, 1929	9.2	8.4	4.9			=			0.71 × 0.83 (the larger)		fins, dorsal side of body	*Anguilla japonica*	Japan	75
M. funduli (Hahn, 1915) Kudo, 1920	14	8	6	8	2			A	0.15; 0.264 × 0.36	a	gills	*Fundulus heteroclitus, F. majalis*	USA	
M. funsienensis n. comb. for *Myxosoma funsienensis* Ma, 1998	9.5 (8.8–10.4)	7.0 (6.8–7.2)	5.8 (5.6–6.4)	4.6 (4.2–5.4)	2.2 (2.0–2.4)	=	5	A	0.518–0.752 × 0.434–0.501	b, c	gills	*Spinibarbus denticulatus yunnanensis*	China	
M. gadopsii Langdon, 1990	13	7.5–8.0	5.5–6.0	8.5–9.0	2.0–2.5	=	11–12	A	0.05–0.55		subcutaneous connect. tissue	*Gadopsis marmoratus*	Australia	21
M. gallaicus Iglesias et al., 2001	10 (8.5–11)	8.8 (8.2–9.5)	5.7 (5–6)	4.9 (4.5–5.5)	2.9 (2.7–3)	=	7–8	D	up to 2.4 × 0.5	d	central venous sinus of branchial filament	*Chondrostoma polylepis*	Spain	
M. galaxii Szidat, 1953	13–15	8.8–10				=		E		c	all organs except gills	*Galaxias maculatus*	Argentina	
M. galilaeus Landsberg, 1985	11.9 (10.3–13.1)	9.1 (7.9–10.0)	6.5 (5.8–7.0)	3.5 (3.1–4.0)	2.8 (2.3–3.1)	=	4–5	A			kidneys, spleen	*Sarotherodon galilaeus*	Israel	
M. gandiolensis Fall et al., 2000	11.3 (10–12)	10.3 (9–12)				=		A			kidneys	*Tilapia guineensis*	Senegal	22
M. gangulli (Sarkar et al., 1982) Landsberg & Lom, 1991	8.7 (8.0–10.0)	5.0 (4.8–6.5)	4.6 (3.5–5.5)	3.6 (2.8–4.6)	1.9 (1.5–2.5)	≠	5–6	A			head cartilage	*Sillago maculata*	Off India	23
M. gariepinus Reed et al., 2003	13.9 (13.7–15.0)	10.8 (10–11.2)		6.2 (6.0–6.2)	3.5 (3.0–3.7)	=	5–6	A	2–3	a	ovary	*Clarias gariepinus*	Botswana	
M. garrae Ma et al., 1982	9.4 (8.8–9.6)	8.6 (8.0–9.6)	6.1 (5.6–6.4)	4.1 (4.0–4.5)	2.4 (2.2–2.6)	=		C	0.425 × 0.123; 0.8 × 0.715	f, h	fins, mouth	*Garra pingi pingi*	China	
M. gibbosus Herrick, 1941	11.9 (10.6–12.3)	10.9 (9.8–12.3)	7.1 (6.5–8.2)	6.5 (5.7–7.4)	3.3–4.1	=	8–12	A	0.75		gills	*Eupomotis gibbosus*	USA	
M. gibelio Yukhimenko, 1986	10.5–12.6	7.4–10	6	3.6–5.3	2.6–3.5	=		B	0.15–0.20	b, c	gills, fins, kidneys	*Carassius auratus gibelio*	Amur basin	
M. gibelioi Wu & Wang, 1982	9.0–11.7	9.5–13.5	5.4–8.1	5.4–6.3	4.8–5.4	=	5–6	B	0.14 × 0.09	c	gills	*Carassius auratus gibelio*	China	
M. gigi (Fujita, 1927) Shulman, 1962	12	6	5	7		=		A	0.08–0.1	a	kidneys	*Fluvidraco nudiceps*	Japan	
M. girellae Lom & Dyková, 1994	12.2 (11.8–13)	8 (7.7–8.4)	5.5–6.5	5.9 (5.5–6.5)	2.9 (2.6–3.1)	=	3–4	B			kidneys, pyloric caeca	*Girella tricuspidata*	Off Australia	

M. globosus Gurley, 1893	7–8	6	5				E			gills	*Erimyzon sucetta*	USA	
M. gnathopogonae (Inoue & Hoshina, 1983) Landsberg & Lom, 1991	11.7 (9.3–13.4)	8.9 (7.2–10.3)	7.0 (5.7–8.2)	5.4 (4.1–6.7)	2.8 (2.1–3.1)	=		A			head integument	*Gnathopogon elongatus caerulescens*	Japan	
M. gobii Naidenova in Gaevskaya et al., 1975	9.8–10.7	9.8–10	7	3–4.9	2.8–3.5	=		B			nares	*Gobio ophiocephalus*	Ukraine	
M. gobiorum Donec, 1984	11–13	9–10	5.5–6	5.2–6.5	2.2–3	≠		C	0.5	a ,b	fins	*Gobio gobio*	Ukraine	233
M. goensis Eiras & D'Souza, 2004	9.7 (9.5–10.5)	6.6 (6–7.5)	5.2 (5–6)	5.3 (4.5–6)	2.4 (2–3)	≠	5	A	0.08–0.12 × 0.28–0.36	b,c,m	gill rakers	*Mugil cephalus*	Off India	291
M. goreensis Fall et al., 1997	10.9 (10–13)	10.9 (10–13)		4.1 (4–5)	3.1 (2–4)	=		A		b	gills	*Mugil cephalus*	Off Senegal	
M. gourdiformis Li & Nie, 1973	13.7 (13.2–14.4)	9.7 (8.6–10.6)	6.9 (6.6–7.2)	6.1 (6.0–6.4)	4.1 (3.6–4.6)	≠	6–7	D	0.105 × 0.0682	h	gills, intestine, kidneys	*Hypohthalmichthys molitrix*	China	151
M. gracilis Nie & Li, 1992	12.0–14.5	6.0–7.0	5.0	5.0–5.5	2.0–2.2	=		B	0.015	c	urinary bladder	*Cyprinus carpio*	China	
M. grandiintercapsularis Shulman, 1962	14.4–16.1	10–10.5	7.7–8.2	5.5–7	3–4	=		D			muscles	*Hypseleotris swinhonis*	Off China	
M. grandis (Kudo, 1934) Landsberg & Lom, 1991	15–16	9–11	6.8	6.7	2.5–3	=		A			liver	*Ericymba buccata*	USA	
M. gravidus Kudo, 1934	12–14	9.5–10	7	5–5.5	2.5	=		A	< 0.5		integument, fins	*Moxostoma anisurum*	USA	
M. gulio nom. nov. for *Myxobolus variabilis* Haldar, 1996	15.2 (13.0–17.9)	5.6 (4.9–8.1)		9.6 (8.1–11.4)	2.8 (1.6–4.0)	≠		A			gills, body muscles	*Mystus gulio*	India	224
M. guyenoti Naville, 1928	14.5–16	11–12		7–8	3–4	=		E			gills	*Perca fluviatilis*	Switzerland	
M. gylactiformae n. comb. for *Myxosoma gylactiformae* Wu, 1985	10.6 (9.1–11.1)	8.3 (7.2–8.9)	7.8 (7–8.4)	3.9 (3.6–4.1)	3.5 (3.3–3.6)	=		A			urinary bladder	*Synechogobius ommaturus*	China	
M. gymnocypris Liu et al., 1982	12.9 (8.7–14.1)	8.9 (7.6–9.8)	6.8 (6.0–7.6)	6.4 (4.4–7.6)	3.1 (2.2–5.6)	=	7–8	A	0.6 × 0.341	k	gills	*Herzensteinia microcephalus*	China	162
M. haematopterus Yukhimenko, 1986	11.5–12.6	10.6–11.5	6.5–6.8	5.2–6.3	3.3–4.7	=		B	0.2–0.5	a, c	gills, fins, skin	*Cyprinus carpio haematopterus*	Amur basin	
M. haichengensis Chen in Chen & Ma, 1998	11.4 (10.2–12)	8.7 (7.6–9.6)	6.4 (6.2–6.6)	5.2 (4.2–6.0)	2.9 (2.4–3.6)	=	5–6	D			gills, kidneys	*Abbottina rivularis*	China	126
M. haikowensis Chen & Ma, 1998	14.8 (14.3–15.8)	12.5 (12–13)	8.1 (7.7–8.7)	8.2 (8.0–8.6)	4.3 (4.2–4.5)	≠		B			intestine	*Zacco platypus*	China	
M. hainanensis Chen in Chen & Ma, 1998	11.8 (10.8–13)	8.3 (8.0–8.3)	5.9 (5.8–6.0)	5.7 (5.2–6.2)	2.8 (2.6–3.2)	=	6–7	B			kidneys	*Osteochilus salsburyi*	China	
M. hakyi (Ha, 1971) Landsberg & Lom, 1991	14.4–16.2	11.7–12.6	*c.* 9	6.8–7.2	3.6	≠		A			kidneys	*Hypophthalmichthys harmandi*	Vietnam	88

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. hanchuanensis Chen in Chen & Ma, 1998	13.0 (12.0–13.7)	10 (9–11)	6 (5.8–6)	4.5 (4–4.8)	2.8 (2.6–3)	=	6–7	C		c, h	gills, body-cavity	*Cyprinus carpio, Rhodeus sinensis*	China	
M. hani Faye et al., 1999	8.0 (7–9)	7.1 (7–8)								a	branchial spines of gill arch	*Mugil curema*	Off Senegal	
M. hannensis Fall et al., 1997	13.9 (13–15)	13.9 (13–15)		8.9 (7–9)	5.7 (5–6)	=		B	1.3–2.2 × 0.7–1.5	b	gill arches, gill lamellae	*Mugil cephalus*	Off Senegal	25
M. harmandi (Ha, 1971) Landsberg & Lom, 1991	12.6–14.4	9–10.8		5.4–7.2	3.6	=		C		b		*Hypophthalmichthys harmandi*	Vietnam	
M. hearti Chen in Chen & Ma, 1998	14.8 (13.2–15.8)	11.2 (10.4–12)	7.2–7.8	7.0 (6.6–7.2)	3.4 (3.0–3.6)	≠	7–8	D	0.045–0.048	c	heart	*Carassius auratus auratus*	China	
M. hemibarbi Dogiel & Akhmerov in Akhmerov, 1960	12.5–14,5	10.5–11.5		6.5	3.6–4.5	=		E			gills	*Hemibarbus labeo, H. maculatus*	Amur basin	
M. hendricksoni Mitchell et al., 1985	13.1 (11–15.5)	12.3 (10–15)	8.6 (8–10)	6.6 (6–7.5)	3.6 (3.5–4)	=	4–6	A	0.1–1.5	e	brain, meninx primitiva	*Pimephales promelas*	USA	
M. heterocapsularis Chen & Hsieh, 1960	14.9 (14.4–15.6)	10.8 (9.6–12)	8.3 (7.8–8.6)	6.9 (5.4–7.2)	4.3 (3.6–4.8)	≠	8–9	B			intestine, kidneys	*Channa argus, C. maculata*	China	
M. heterocapsulatus Jaczó, 1940	12.2 (11–14.1)	7.7 (7.5–7.6)	6	6.3 (6–7)	5	≠		E			intestine	*Aspius aspius*	Hungary	
M. heterofilamentosus Landsberg, 1987	9.8 (9.2–10.8)	6.9 (6.2–7.5)	5.6 (5.1–5.9)	5.2 (4.7–6.0)	2.6 (2.2–2.9)	=	10–12	A			kidneys, spleen, liver, gills	*Clarias lazera*	Israel	26
M. heterolepis Li & Desser, 1985	14 (12.5–14.5)	10 (8.5–10.5	9.0	6.5 (6–8)	3 (2.5–3.5)	=	6–7	D			brain, eye	*Notropis heterolepis*	Canada	
M. heteromorpha Ma, 1993(b)	10.9 (9.1–11.8)	9.5 (8.8–10.3)	5.7 (5.0–7.0)	5.2 (4.4–5.9)	3.6 (2.9–4.4)	=	5	A	0.32–0.4; 0.8 × 0.64	c, h	heart, kidneys	*Cyprinus carpio*	China	
M. heterosporus (Baker, 1963) Landsberg & Lom, 1991	12.5 (8.5–17.0)	8.3 (6.5–11)		4.1 (2.0–5.5)	2.3 (1.5–3.5)			A			"viscera"	*Tilapia esculenta*	Uganda	27
M. hochingensis Chen in Chen & Ma, 1998	8.6 (8.4–9.2)	7.4 (7.2–8.4)	6.0 (5.7–6.3)	3.5 (3.4–3.6)	2.2 (1.8–2.4)	≠	5–6	B			skin, kidneys	*Capoeta semifasciolata*	China	147
M. hoffmani (Meglitsch, 1963) Landsberg & Lom, 1991	9.3 (8.6–10.8)	8.4 (7.8–8.9)	6.2 (5.9–6.5)	5.0 (4.6–5.7)	2.4 (2.2–2.7)	=	10	A			eye-ball wall	*Pimephales notatus*	USA	
M. hokiangensis Ma, 1998	13.4 (12.1–14.2)	9.3 (7.6–10)	6.3 (6.1–6.5)	5.9 (5.3–6.1)	3.4 (3.0–3.8)	≠	5–6	B			ureter, urinary bladder	*Carassius auratus auratus*	China	
M. homei nom. nov. for *Myxosoma abbottinae* Chen, 1998	14.2 (13.8–14.4)	13.9(12.6–14.4)	9.5 (9.0–9.7)	7.5 (7.2–8.2)	5.9 (5.4–6.0)	=	6–7	D	0.5–0.7	b, c	gall-bladder, kidneys, intestine	*Abbottina abtustinostris*	China	251
M. homeosporus (Baker, 1963) Landsberg & Lom, 1991	15.0 (13.5–17.0)	9.7 (8.5–11.0)		5.4 (4.0–6.0)	2.9 (2.0–4.0)			A	1–2		subcuticular	*Tilapia* sp.	Uganda	

M. hosadurgensis Seenappa & Manohar, 1981	10.5 (9.0–11.0)	6.3 (5.0–8.0)	5.6 (5.0–6.0)	5.4 (4.0–6.0)	2.3 (2.0–3.0)	≠		B			gills, muscles	*Cirrhina mrigala*	India	28
M. hoshinai (Hoshina, 1953) Landsberg & Lom, 1991	11.4 (9.7–13.4)	9.3 (7.9–10.9)	6.6 (5.4–7.7)	4.5 (3.5–5.1)	2.8 (2.3–3.6)	=	6	B	1.04–1.47 × 0.9–1.35	h	integument	*Cyprinus carpio*	Japan	
M. hopehensis Chen in Chen & Ma, 1998	11.8 (10.8–15)	9.3 (7.2–10.8)	6.6 (6.0–7.2)	6.1 (5.8–7.2)	3.3 (2.4–3.6)	≠	7–8	D	0.08–0.3 × 0.066–0.155	k	gills, intestine, gall-bladder	*Aristichthys nobilis*	China	152
M. huananensis Chen in Chen & Ma, 1998	18 (16.8–19.2)	9.3 (8.4–9.6)	6.7 (6.2–7.2)	10 (9.0–10.8)	3.6 (3.4–4.6)	=	8–9	D			skin, gills	*Carassius auratus auratus*	China	
M. huasaensis Chen in Chen & Ma, 1998	12.8 (11.6–13.9)	8.1 (6.7–9.2)	5.4	6.8 (5.4–7.8)	3.1	=	7–8	B			kidneys, gall-bladder	*Ctenopharyngodon idellus*	China	
M. hubeiensis Wu & Chen, 1987	12 (11.6–12.4)	11.9 (10.7–12)	8.9 (8.6–9.1)	5.8 (5.2–6.2)	3.9 (3.0–4.5)	=	6	C	1	c	brain	*Saurogobio dabryi*	China	
M. huchowensis Chen in Chen & Ma, 1998	18.9 (18.0–19.8)	10 (9.6–10.8)	8.0 (7.2–8.4)	9.0 (8.4–9.6)	3.5 (3.2–3.6)	=	8–10	C			gills	*Carassius auratus auratus*	China	
M. hudsonis (Bond, 1938) Landsberg & Lom, 1991	11.5–12.5	7		4–5	2–2.5	=	7–9	A	0.23 × 0.17–0.3 × 0.26		between scales at base of fins	*Fundulus heteroclitus*	Off USA	
M. humilis Ha, 1971	8.1–9	6.3–7.2		3.6–3.8	1.8–2.7	=		A			spleen	*Hypophthalmichthys harmandi*	Vietnam	
M. hunanensis Chen & Ma, 1998	10 (9.6–11.5)	8.0 (7.2–8.4)	5.0 (4.8–5.2)	4.5 (3.6–4.8)	2.5 (2.4–2.9)	≠	5–6	C	0.1258 × 0.0593	c, b	gall-bladder	*Hypophthalmichthys molitrix*	China	
M. hungaricus Jaczó, 1940	8.1 (7.3–9.3)	6.6 (4.8–6.8)		3.6 (2.9–4.4)		=		E			gills	*Abramis brama*	Hungary	
M. huitungensis nom. nov. for *Myxosoma omeiensis* Ma & Zhao, 1998	7.7 (7.2–8.0)	5.8 (5.6–6.4)	4.8	4.4 (4.0–4.8)	2.1 (1.6–2.4)	=		A	0.4875 × 0.65	h	gills, kidneys	*Schizothorax wangchiachii*	China	217
M. hwangshihensis Nie & Li, 1992	8.4–9.6	7.0–7.8	5.0	5.0–6.0	2.4–2.8	=		C			heart, kidneys	*Xenocypris argentea*	China	
M. hyborhynchi Fantham et al., 1939	9.1–10.9	7.3–8.6		4.1–5.9	2.3–2.5			A	0.4		mandible	*Hyborhynchus notatus*	Canada	
M. hyderabadense (Lalitha Kumari, 1969) Landsberg & Lom, 1991	10.1 (9.3–11.5)	5.9 (5.0–8.0)		5.8 (5.0–7.3)	2.2 (1.4–3.0)	=	8–9	B			gills	*Barbus pinnauratus*	India	
M. hydrocyni Kostoïngué & Toguebaye, 1994	13.7 (13–14)	8.5 (8–10)		4.8 (4–5)	2.3 (2–3)	=		E			gills	*Hydrocynus forskali*	Tchad	
M. hylae Johnston & Bancroft, 1918		8–10	6–8	4–5	2	=		E	2–3 (the largest)		testes, oviducts	*Hyla aurea*	Australia	
M. hypophthalmichthydis Dogiel & Akhmerov in Akhmerov, 1960	11–12	9–10	6	5.5–6	4	≠		A	2	a		*Hypophthalmichthys molitrix*	Amur basin	193
M. hypseleotris Chen in Chen & Ma, 1998	14.6 (12.6–15.6)	9.7 (8.4–10.8)	6.6 (6.0–7.2)	5.4 (4.8–6.0)	3.3 (2.8–3.6)	=	5–6	C			skin, muscles, intestine	*Hypseleotris swinhonis*	Off China	121
M. ibericus Gonzalez-Lanza & Alvarez-Pellitero, 1984	10.0 (9.0–11.0)	8.6 (8.0–9.5)	6.5 (6.0–70)	4.9 (4.0–6.0)	2.6 (2.2–3.5)	=,≠	7–8	C			kidneys, spleen, liver, ureter	*Salmo trutta f. fario*	Spain	69

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. ichkeulensis Bahri & Marques, 1996	13.5 (13–14)	12.5 (12–13)		5.5 (5–6)	4.2 (4–4.3)	=	7–8	A	2.2–4 × 1–3		gills arches	*Mugil cephalus*	Off Tunisia	90
M. imami Ali et al., 2002	10.7 (10.4–11.6)	7.6 (7.2–8.0)		5.9 (5.2–6.2)	2.9 (2.4–3.2)	=	9	A	0.23-average diameter		kidneys	*Labeo niloticus*	Egypt	
M. impressus Miroshnichenko, 1980	10.5–13.7	9.2–11	6–7.5	5.5–6.8	2.8–4	=		E			fins, gills	*Barbus barbus, Leuciscus cephalus*	Ukraine	
M. improvisus Izyumova in Shulman, 1966	6.5–7.7	7.5–9.3	4.6–5.6	2–3.3		≠		E	1.5-average diameter	a	muscles	*Leuciscus idus*	Ukraine	194
M. inaequalis Gurley, 1893	11	7				≠		E				*Pimelodus clarias*	Guyana	
M. inaequus Kent & Hoffman, 1984	19.8 (15.6–22)	8.6 (7.8–9.3)	8.0 (7.7–8.5)	11.8 (9.4–13)	3.6 (3.1–3.9)	≠		B			brain	*Eigemannia virescens*	Brazil	29
M. indiae (Lalitha Kumari, 1969) Landsberg & Lom, 1991	13.7 (12.4–15.0)	7.3 (6.4–8.6)		5.9 (5.7–7.1)	2.1 (1.4–2.5)	=,≠	8–10	A	1–2		gills	*Barbus sarana*	India	30
M. indicus Tripathi, 1952	9.5–10.8	7.5–8.2	5.5	2.7–3.6	1.8	≠		A	0.5–0.7		muscles, liver, intestinal wall	*Cirrhina mrigala*	India	31
M. indirae (Kundu, 1985) Landsberg & Lom, 1991	12.6 (11.0–14.0)	9.6 (9.0–11.0)	2.4 (2.2–3.0)	4.7 (4.0–6.0)	2.2 (2.0–2.5)	=	8–10	A	0.5–1.0	a, h	head cartilage, tail fin	*Cirrhina mrigala*	India	
M. inflatus Chen in Chen & Ma, 1998	13.6 (13.2–15.6)	10 (9.6–10.8)	7.5 (5.4–7.5)	5.9 (5.4–6.2)	3.3 (3.0–3.6)	=	6–7	C			gills, kidneys, urinary bladder	*Hypseleotris swinhonis*	Off China	122
M. infundibulatus Donec & Kulakovskaya in Shulman, 1962	13.4–15.4	11–13		6.9–7.9	4.5–4.8	≠		E			kidneys	*Leuciscus cephalus*	Danube	195
M. iranicus Molnár et al., 1996	13.6 (13.2–14.0)	8.9 (7.5–9.2)	6.0 (5.6–6.3)	7.3 (6.9–7.5)	3.3 (2.9–3.5)	≠	7	D	up to 0.5–0.6 × 0.3–0.4	h	spleen	*Barbus luteus*	Iran	32
M. inornatus Fish, 1938	12.3	8.2	5.8	5.2	2.4	≠		E	1–7	b	caudal peduncle muscles	*Huro floridana*	USA	215
M. insidiosus Wyatt & Pratt, 1963	15 (12.8–17.3)	10.3 (9–11.5)	7.5 (6.4–9)	8.8 (7–10.2)	3.3 (2.6–4.5)	=		A	0.079–0.142 × 0.674		muscles	*Oncorhynchus tshawytscha*	USA	91
M. insidiosus clarki Wyatt, 1979	12.5 (11.5–13.5)	8.4 (7.5–9.0)	7.4 (7.3–8.4)	8.3 (7.5–9.5)	2.9 (2.5–3.5)			A	0.04–0.14 × 0.016–0.07	b, f	muscle connective tissue	*Salmo clarki*	USA	
M. intestinalis Kudo, 1929	12–13	10–12.5	8	7.5–8.5	3.5–4	=	10–12	C	1–3	f	intestine	*Pomoxis sparoides*	USA	
M. irinae Daniyarov, 1975	9.4–10.6	7–7.7		4–5.9	2.4–3	=		B			kidneys	*Barbus capito conocephalus*	Central Asia	
M. isakovi Shaova, 1969	13–14	8.4–8.8		6.6–7.7	3.3–4.2	=	4	D			kidneys, spleen	*Leuciscus cephalus orientalis*	Russia	
M. israelensis Landsberg, 1985	12.5 (11.4–13.9)	8.8 (7.6–9.7)	6.9 (6.3–7.4)	7.7 (7.0–8.2)	3.5 (3.2–4.0)	=	7–8	A			kidneys, spleen	*Sarotherodon galilaeus*	Israel	33
M. intrachondrealis Molnár, 2000(a)	10.2 (9.0–11)	6.5 (6–7)	4 (3.7–4.2)	4.5 (3.7–4.7)	2.2 (2–2.6)	=	9–11	D	0.3–0.5	c, h	cartilage of gill arches	*Cyprinus carpio*	Hungary	34
M. iucundus Hine, 1977	11.0–14.5	10.5–11.0	7.1–8.1	6.6–9.5	3.1–4.2	=		A	2.0–5.0 × 0.2–1.2	i	muscles	*Galaxias maculatus*	New Zealand	

M. iowensis Otto & Jahn, 1943	12.2–12.9	10.6–11.4	7.6	7.6	3–3.8	=	8–9	A	0.21 × 0.33		gills	*Pomoxis sparoides*	USA	
M. jianouensis Wu et al., 1993	9.2 (8.8–9.5)	7.1 (6.6–7.4)	4.7 (4.4–5.5)	5.5 (5.2–5.9)	2.5 (2.6–2.8)	≠		B		c, h	gills	*Leptobotia compressicauda*	China	
M. jingangensis Lei, 1988	13.0 (12.0–14.0)	10.4 (10–11)		3.2 (3.0–3.5)	3.0 (3.0–3.1)	=	5–6	B			kidneys	*Misgurnus anguillicaudatus*	China	
M. jollimorei Cone & Overstreet, 1998	11.0 (10.5–11.5)	13.8 (12–14.5)	7.5 (6.5–8.0)	6.0 (5.5–6.0)	3.8 (3.5–4.5)	=	6–9	A	0.05–0.3	a	bulbus arteriosus	*Lepomis macrochirus*	USA	
M. junchisi Yukhimenko, 1986	9.7–12.6	8.4–9.2	5.2–6.3	5.4–6.3	2.9–3.2	≠		B	0.2–0.3	a	gills, muscles, kidneys	*Cyprinus carpio haematopterus*	Amur basin	243
M. kalarfi nom. nov. for *M. garrai* Kalantan & Arfin, 1991	13.0 (11.3–15.5)	7.3 (6.8–8.3)	5.5 (5.0–7.0)	5.6 (4.7–6.5)	2.4 (2.4–3.0)	=	6–8	B		a	body musculature	*Garra tibanica*	Saudi Arabia	285
M. karelicus Petrushevski, 1940	7–13	6–10	7	4–6.3	2–4	=		E	1.3	a	gills, gut, eyes	*Varicorhinus capoeta heratensis*	Russia	
M. karnatakae (Hagargi & Amoji, 1981) Landsberg & Lom, 1991	17.5 (16.3–19.0)	11.1(10.8–13.6)		11.1	4.7 (3.5–5.4)	=	6–7	B	0.02 × 0.026		caudal muscles	*Barbus chola*	India	
M. karuni Masoumian et al., 1994	14.1 (13.0–14.9)	10.2 (9.7–10.4)	7.2 (6.5–7.8)	6.2 (6.5–7.5)	3.4 (3.2–3.9)	=	10–11	D	0.5 × 0.8	c, h	gills	*Barbus grypus, B. luteus*	Iran	281
M. kashingensis Chen & Ma, 1998	11.7 (10–13)	8.9 (8–10)	7	6.4 (6–7)	4.5 (4.2–5)	≠		A			gills	*Ctenopharyngodon idellus*	China	
M. kawabatae (Fujita, 1927) Shulman, 1962	16	8	6	12	3	≠		A	0.08–0.1	a	kidneys	*Fluvidraco nudiceps*	Japan	
M. kianghanensis Chen in Chen & Ma, 1998	12.0 (9.6–13.2)	10.4 (8.4–12)	8.5 (8.4–8.6)	6.0 (5.4–6.0)	3.7 (3.6–3.8)	≠	7–8	D			kidneys	*Pseudorasbora parva*	China	
M. kiangsiensis Chen in Chen & Ma, 1998	12.4 (10.8–15.6)	7.6 (6.6–8.4)	5.4 (5.2–6.0)	6.6 (6.0–8.4)	3.3	=	6–7	C			intestine	*Pelteobagrus fulvidraco*	China	
M. kiangsuensis Ma, 1992	12.5 (11.4–13.6)	9.0 (7.6–9.1)	6.8 (6.1–7.6)	4.5 (3.0–4.6)	2.5 (2.3–3.0)	=	8	A	0.1–1	c	oral cavity, gills	*Misgurnus anguillicaudatus*	China	
M. kiangtsingensis Ma, 1998	10 (9.1–10.6)	6.6 (5.2–7.6)	5.9 (5.3–6.1)	5.3 (4.6–6.1)	3.1 (3.0–3.1)	≠		B			heart, spleen, kidneys	*Rhodeus ocellatus*	China	
M. kiatingensis Ma, 1998	10.6 (10.4–11)	8.2 (8.0–8.8)	7.7 (7.5–7.9)	5.0 (4.8–5.6)	2.5 (2.4–2.8)	≠		A			swimm-bladder	*Abbottina kiatingensis*	China	
M. kidneyi nom. nov. for *Myxosoma capoeta* Chen in Chen & Ma, 1998	8.2 (7.9–8.4)	6.6 (6.0–7.2)	5.3 (5.0–5.8)	3.5 (3.0–3.8)	2.4 (2.2–2.5)	≠		A			kidneys	*Capoeta semifascialata*	China	252
M. kienweiensis Ma, 1998	12.5 (11.4–13)	10.2 (9.5–11)	5.7 (5.6–5.9)	4.4 (4.3–4.6)	2.8 (2.8–3.0)	=		A	0.0284 × 0.0198		almost all organs	*Schizothorax davidi*	China	
M. kingchowensis Ma & Chen, 1998	10.7 (9.6–12)	8.3 (7.2–8.4)	6.0	7.2 (6.2–8.4)	3.4 (2.6–3.6)	≠	5–6	B	0.126–0.059	k	almost all organs	*Carassius auratus auratus*	China	134
M. kisutchi Yasutake & Wood, 1957	7–8.5	6.5–7	3.5–3.8	3.8–5.5		=		E			spinal cord	*Oncorhynchus kisutch*	USA	
M. kiuchowensis Chen in Chen & Ma, 1998	16.7 (16.2–16.8)	12.3 (12–12.6)	8.7 (8.5–9.0)	9.1 (8.6–9.6)	6.4 (6.0–6.6)	≠	8–9	D			urinary bladder, gills	*Aristichthys nobilis*	China	136
M. koi Kudo, 1919	14–16	8–9	5–6	8–9	2.5–3	=		A		a	gills	*Cyprinus carpio*	Japan	
M. koli Lalitha Kumari, 1969	8.4 (7.1–9.6)	6.0 (5.0–6.4)		4.3 (3.9–4.6)	2.8 (2.1–3.1)	≠		A			dorsal and ventral fins	*Barbus kolus*	India	35

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. kostiri Herrick, 1936	9.6 (8.8–11.2)	7.4 (6.4–8.0)	5.4 (4.9–5.8)	4.7 (4.1–4.9)	2.5 (2.4–3.3)	≠	˜13	A	0.75–1.5	b		*Micropterus dolomieu*	USA	78
M. kotlani Molnár et al., 1986	10.3 (8.7–11.7)	7.6 (6.9–8.5)		5.6 (3.9–6.1)	2.7 (2.2–3.4)	=	7–8	A	0.1–0.2 × 0.07–0.12	a, b	subcutaneous connect. tissue	*Anguilla anguilla*	Hungary	36
M. koumingensis Chen in Chen & Ma, 1998	15.8 (15–16.2)	9.9 (8.4–10.8)	6.2–6.5	7.1 (6–7.8)	3.5 (3–3.6)	=	9–10	B			gills, kidn., liver, spleen, gonad	*Clarias batrachus*	China	
M. kovali Allamuratov, 1967	7.5–9	6–10	7	3.7–4.5	2.4–3.9	≠		B	0.8–1 × 0.104–0.16	c	gills	*Varicorhinus capoeta heratensis*	Central Asia	234
M. kozloffi Wyatt, 1979	13.5 (13.5–15.5)	8.6 (8.0–9.5)	7.2 (6.5–7.5)	7.7 (7.5–8.5)	3.2 (3.0–3.5)			B			kidneys	*Catostomus luxatus*	USA	
M. kribiensis Fomena & Bouix, 1994	21.2 (20.2–23.0)	9.5 (9.0–10.0)		16.1(14.5–17.6)	15.4(13.5–16.9)	=,≠	19–28	A	0.3–1	a, h	skin, eye sclera	*Brycinus longispinnis*	Cameroon	279
M. krokhini Konovalov & Shulman in Shulman, 1966	9.6–12	7.5–10.5	6.6–6.9	5–6.6	2.5–4	=		D			abdominal serosa	*Salvelinus alpinus*	Kamchatka	196
M. kubanicus Bykhovskaya-Pavlovskaya & Bykhovski, 1940	11–13.3	7–9.6	6–8	4–5.6	3–3.5	=		C	small	a	gut, muscles	*Carassius auratus gibelio*	Kuban River, Russia	274
M. kudoi Guimaraes & Bergamin, 1938	8.5–8.9	6.5–7.3		3.5–4.1	1.3–2.0	=		A	0.5–1.0	a	integument	*Nemathognata* sp.	Brazil	
M. kuleminae Donec in Shulman, 1984	15–19.5	12–15	8–9.1	7–9	4–5	≠		D	small		muscles, heart	*Aspius aspius, Leuciscus leuciscus*	Ukraine	197
M. kunmingensis Ma, 1998	8.5 (8.2–8.6)	8.1 (8.0–8.4)	6.0 (5.9–6.2)	4.3 (4.0–4.4)	3.3 (3.2–3.5)	=		B	0.635 × 0.6011	c	gills	*Varicorhinus acanthopterus*	China	
M. kwangsiensis Hsieh et al., 1993	10.9 (10–11.5)	6.9 (6.4–7.3)	6.0	5.5 (5.1–6.3)	2.9 (2.6–3.1)	≠	4–5	B			gills, kidneys	*Labeo rohita*	China	
M. kwangtungensis n.comb. for *Myxosoma kwangtungensis* Chen in Chen & Ma, 1998	17.0 (15.8–18.6)	11.9 (10.8–13)	8.1 (7.8–8.6)	8.4 (7.8–9.6)	3.8 (3.6–3.8)	=	7–9	B			gall-bladder	*Clarias batrachus*	China	202
M. labeosus Sarkar, 1995	9.2 (8.0–10.0)	7.6 (6.5–9.0)		6.1 (6.0–6.5)	2.7 (2.0–4.0)	≠	5–7	A			mesentery near spleen	*Labeo fimbriatus*	India	106
M. labiae Negm-Eldin & Eid in Negm-Eldin, 1999	10.0	7.5		4.7	3.3	=	5–6	E			gills	*Labeo niloticus*	Egypt	
M. lairdi Moser & Noble, 1977	9.9 (9.0–11.0)	9.9 (9.0–11.0)	6.1 (5.0–7.0)	5.0 (4.5–6.0)	1.8 (1.5–2.5)	=	6–8	A			eyes, brain	*Coryphaenoides rupestris*	Off Norway	
M. lamellus Grinham & Cone, 1990	12.0 (9.5–13.5)	10.5 (9.0–12.0)	7.0 (5.0–8.0)	6.0 (5.0–7.0)	3.5 (3.0–4.5)	=	5–6	C			gills	*Catostomus commersonii*	Canada	112
M. lampiformis Chen & Ma, 1998	14.5 (14.0–15.0)	12.0 (11–13)	9	7.0 (6.0–7.2)	4	≠	5	A			gills	*Aristichthys nobilis*	China	

M. lancangensis nom. nov. for *Myxosoma obovoides* Ma, 1998	9.2 (8.8–9.6)	7.8 (7.5–8.0)	6.0 (5.6–6.4)	4.8 (4.7–4.9)	2.5 (2.4–2.6)	=		A	0.167 × 0.1336	c	thoracic fin	*Varicorhinus acanthopterus*	China	253
M. lanfyongi Ha, 1971	10.8–11.7	10.8–11.7		4.5–5.4	2.7–3.6	=		C		a	wall of intestine	*Spinibarbichthys denticulatus*	Vietnam	37
M. latesi Kostoïngué & Toguebaye, 1994	9.8 (9–10.5)	7.7 (7–8)		3.7 (2.7–4.5)	2.5 (2.3–2.8)	=		E			gills, intestine	*Lates niloticus*	Tchad	
M. latipinnacola Wold & Iversen, 1978	13.1 (12.0–14.0)	8.6 (7.1–9.8)	6.7 (5.7–7.3)	5.1 (3.9–5.9)	2.2 (1.7–2.8)	=	4	A	0.059	a	gall-bladder	*Poecilia latipinna*	USA	
M. latis Negm-Eldim et al., 1999	21.1	17.2		6.2	5.3	=	4–7	A	1.3 × 0.8	b, d	gills	*Lates niloticus*	Egypt	
M. latus Shulman, 1962	7–10	8.4–11	5.2–5.6	4–5.6	3–4	=		C	0.5	a	kidneys	*Hypophthalmichthys molitrix*	Amur basin	
M. lazera nom. nov for *Myxobolus clarii* Mandour et al., in Negm-Eldim et al., 1999	9–12.2	7.5–9.9		4.1	2.4	=	5	E			testes	*Clarias lazera*	Egypt	254
M. leiobagrusi Ma & Zhao, 1998	9.6 (9.6–10.0)	7.4 (7.2–8.0)	5.6	4.4 (4.0–4.8)	2.4	=		A			gills	*Leiobagrus marginatus*	China	
M. leipoensis Ma & Zhao, 1998	9.0 (8.8–9.6)	7.2 (6.4–8.0)	4.8	4.9 (4.4–5.6)	2.2 (2.0–2.4)	=		A			kidneys	*Acrossochilus yunnanensis*	China	
M. lentisuturalis Dyková et al., 2002	11.8 (11.2–12.4)	7.6 (7.2–8.4)	5.2	4.2 (4.0–4.4)	2.5 (2.0–2.8)	=	4				muscle fibres	*Carassius gibelio*	China	
M. lepomicus Li & Desser, 1985	14.5 (12.5–16.5)	9.5 (9–11.5)	7–7.5	5.5 (5–6.5)	3.5 (3–4)	=,≠	5–7	B			gall-bladder, gills	*Lepomis gibbosus*	Canada	
M. leptobotiae Ma, 1998	7.2 (6.8–7.4)	6.1 (5.9–6.5)	4.9 (4.0–6.0)	3.7 (3.5–3.9)	1.8 (1.5–2.0)	=		A	0.64–1.2 × 0.11–0.15	f	gills	*Leptobotiae elongata*	China	
M. lepturichthys Ma, 1998	8.7 (7.0–9.4)	7.8 (5.6–8.7)	5.7 (5.6–5.8)	4.1 (3.9–4.2)	2.8	=		B	0.045 × 0.03; 0.206 × 0.11	c	kidneys	*Lepturichthys nicholsi*	China	
M. leqingensis Wu, 1998	13.6 (12.9–14.2)	9.4 (9–9.6)	5.5 (5.2–5.8)	6.2 (5.8–6.4)	3.3 (3.0–3.6)	=	5–6	B	0.03 × 0.06	b, c	gills, intestine	*Clarias batrachus*	China	
M. leshanensis Ma & Zhao, 1992	10.4 (9.6–12)	8.5 (8–8.8)	5.2 (4.8–5.6)	4.9 (4.8–5.2)	2.0 (1.8–2.4)	=		B	0.1595 × 0.143	b, c	kidneys	*Varicorhinus angustistomatus*	China	
M. leuciscini Gonzalez-Lanza & Alvarez-Pellitero, 1985						=	6–8	B	0.036–0.15 × 0.02–0.14		gills	*Chondrostoma polylepis polylepis*	Spain	70
M. leuciscusi Chen in Chen & Ma, 1998	12.2 (11.6–13.1)	7.8 (6.9–8.5)	5.9 (5.4–6.2)	6.5 (6.2–6.9)	3.5 (3.1–3.9)	≠	6–7	B			kidneys, spleen, gall-bladder, ureter	*Leuciscus waleckii*	China	
M. leucogobianus (Fujita, 1927) Landsberg & Lom, 1991	12	10	7.5	7.5	3.5	≠		A			kidneys	*Pseudogobius esocinus*	Japan	210
M. liangshanensis Ma & Zhao, 1998	9.1 (8.1–10.1)	7.9 (7.3–8.1)	5.5 (5.1–5.6)	5.0 (4.8–5.6)	2.8 (2.4–3.2)	≠		A	0.158 × 0.138	c	kidneys, liver	*Garra pingi pingi*	China	171
M. liaohoensis Chen in Chen & Ma, 1998	9.9 (9.4–10.8)	7.9 (6.2–8.4)	5.8 (5.5–6.0)	5.1 (4.6–6.0)	3.0 (2.6–3.4)	≠	6–7	B			skin	*Capoeta semifasciolata*	China	
M. liaoningensis Chen in Chen & Ma, 1998	8.3 (7.8–8.4)	12 (9.6–12.8)	6.7 (6.6–7.2)	4.3 (3.8–4.8)	3.3 (2.8–3.6)	=	5–6	D	0.05–0.15	b, e	gills, intestine	*Hypophthalmichthys molitrix*	China	124
M. lieni (Nie & Li, 1973) Landsberg & Lom, 1991	7.2–7.4	7.2–7.4	4.8–5.0	3.8 (3.6–4.2)	2.8 (2.6–3.0)	=	5	B			almost all organs	*Hypophthalmichthys molitrix*	China	203
M. linghuensis Chen in Chen & Ma, 1998	11.0 (10.2–13.2)	9.3 (8.4–9.6)	7.0 (6.0–7.2)	4.9 (4.8–5.4)	2.8 (2.6–3.4)	=	7–8	B, C			gills, intestine	*Aristichthys nobilis*	China	127

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. lintoni Gurley, 1893	13.9	11	8			=		E			integument	*Cyprinodon variegatus*	Off USA	
M. liocassii Akhmerov, 1960	14–16	6.8–8	5–5.5	6.5–8	2.6–3	=		B	1	a	gall-bladder	*Liocassis ussuriensis*	Amur basin	
M. lizae (Narasimhamurti & Kalavati, 1979) Landsberg & Lom, 1991	9.0–9.5	4.6–5.2		3.2	2.0	=	5–7	A	1.5–3.0		outer wall of gut	*Liza macrolepis*	India	
M. lobatus (Nemeczek, 1911) Landsberg & Lom, 1991	12.6	8.2		4.2		=		E	0.5–3 × 0.5–1	b,c,m	gills	*Leuciscus leuciscus, Aspius rapax*	Germany	
M. lokiaensis Chen in Chen & Ma, 1998	11.5 (10.8–12)	8.5 (8.4–8.6)	7.1 (6.2–7.8)	6.1 (5.8–6.4)	3.5 (3.2–3.6)	=	8–10	B	0.045–0.052	c	urinary bladder	*Carassius auratus auratus*	China	
M. lomi Donec & Kulalovskaya in Shulman, 1962	9–13	7–9	5–7.9	4–7	2–2.7	=		D		a	gills	*Phoxinus phoxinus*	Danube	
M. longi nom. nov. for *Myxobolus acrossocheilusi* Ma, 1998	10.5 (10.4–10.6)	7.2 (7.2–7.3)	5.6	5.3 (4.8–5.7)	3.0	≠		B			kidneys, gall-bladder	*Acrossocheilus yunnanensis*	Off China	268
M. longisporus Nie & Li, 1992	16.0–17.5	6.5 –7 .0	6.0	7.5–8.2	2.0	=		A				*Cyprinus carpio*	China	
M. lotae Mitenev, 1971	8.4–10.4	6.2–6.5		3.4–4.4	2.3–3.4	=		B	0.1–2	a	gills	*Lota lota*	Russia	
M. luciogobii (Ishizaki, 1957) Landsberg & Lom, 1991	9 (7.7–10.7)	7.7 (6.9–9.2)	6.4 (5–7.9)	3.7 (3.0–4.6)	2.6 (2.3–2.9)	=	6	A			urinary bladder	*Luciogobius guttatus guttatus*	Japan	
M. luciopercae Schäferna & Jírovec, 1931	9.8 (8–11)	8.2 (7.4–9)	5.5 (5–6.2)	5.7	2.3	≠		E	0.6–1.2		head integument; dorsal fin	*Stizostedion lucioperca, S. sandra*	Germany	244
M. luguensis n. comb. for *Myxosoma luguensis* Ma & Zhao, 1998	10.0 (9.6–11.4)	8.0 (7.6–8.4)	7.6 (7.3–7.8)	5.5 (4.8–6.4)	2.6 (2.4–2.8)	=		A	2.6 × 1.95	b	gills	*Schizothorax kozlovi*	China	
M. lutzi Aragao, 1919	10	7				=		E			testes	*Poecilia vivipara*	Brazil	
M. mabianensis nom. nov. for *Myxosoma schizothoraxi* Ma, 1998	9.4 (8.8–9.6)	7.0 (6.4–7.2)	6.4	4.5 (4.0–4.8)	2.7 (2.4–3.2)	=	6–7	B	0.39	c	gills, kidneys	*Schizothorax prenanti*	China	255
M. macrocapsularis Reuss, 1906	9–14.5	6–9.9	4.5–6	5–8.6	2.4–3.6	=		B	1.5	c	gills	*Blicca bjoerkna*	Russia	289
M. macroplasmodialis Molnár et al., 1998	11 (10.5–12)	8.5 (8–9)	5.2 (5–5.5)	4.5 (4–5)	2.8 (2–3)	=	6	D	7–24 × 3–13	h	free in body-cavity	*Salminus maxillosus*	Brazil	
M. macropodusi n. comb. for *Myxosoma macropodusi* Chen in Chen & Ma, 1998	16.5 (15.4–17.7)	6.0 (5.4–6.9)	4.6 (4.4–4.8)	6.1 (5.4–6.9)	1.4 (1.2–1.6)	=		A			skin	*Macropodus chinensis*	Off China	
M. maculatus Casal et al., 2002	21.0 (9.7–23.0)	8.9 (7.9–9.5)	7.5 (7.2–7.9)	12.7(11.8–13.8)	3.2 (3.0–3.6)	=	14–15	A	0.150		kidneys	*Metynnis maculatus*	Brazil	
M. magauddi (Bajpai, 1981) Landsberg & Lom, 1991	11.2 (10.8–11.7)	9.2 (8.3–10.0)		4.0 (3.3–5.0)	3.0 (2.5–3.3)	≠	6–7	D	1.0	a	gills	*Trichogaster fasciatus*	India	85

M. magellanicus Szidat, 1953	10–13	8.1–8.8		3		=		E	0.6		gills	*Galaxias maculatus*	Argentina	
M. magnaspherus Cone & Anderson, 1977	18 (16–22)	20 (18–22)	12 (11–13)	10 (9–12)	6 (5–7)	=	10–12	A	0.1–0.3	a	kidney parietal peritoneum	*Lepomis gibbosus*	Canada	
M. magnus Awerinzev, 1913	38–45	32–38	28–35	15–17		=		E		e	eyes	*Gymnocephalus cernuus*	Germany	
M. mahendrae Sarkar, 1986	12.7 (11.5–14.0)	10.4 (9.8–10.5)		7.0 (6.3–7.3)	3.7 (3.5–4.2)	≠	8–9	A			gill arch epithelium	*Catla catla*	India	38
M. manoramae Basu & Haldar, 2002	11.8 (10.7–13.1)	5.6 (4.8–6.3)		6.2 (5.5–6.6)	2.2 (2.0–2.5)	=,≠	5–6	A	0.2–0.31	c	tail fin	*Catla catla* × *Labeo rohita*	India	218
M. mapienensis Ma, 1998	13.1 (11.9–13.6)	10.3 (10.2–11)	8.5	8.4 (8.2–8.5)	4.3 (3.4–5.1)	≠		C			gills	*Abbottina kiatingensis*	China	
M. manueli Cone & Overstreet, 1998	10.8 (10–11)	9.1 (8–10)	7.0 (6.5–7.0)	5.3 (4.5–6.0)	2.9 (2.5–3.0)	=	6–7	A	0.1–0.8	a	bulbus arteriosus	*Pomoxis nigromaculatus*	USA	
M. marginatus Kulemina, 1969	8.5–10	5–7	4	3–4	1.4–1.7	=		E		a	skull bones	*Rutilus rutilus*	Russia	
M. margitae Molnár, 2000(b)	13.7 (13–14)	9.7 (9.5–10)	5.7 (5.5–6)	5 (4.5–5.5)	3 (2.8–3.2)	=	7–8	D	0.3–0.5	a	gills	*Alburnus alburnus*	Hungary	84
M. martini Salim & Desser, 2000	17.9 (16.4–19.5)	12.1(10.3–13.5)	8.4 (7.3–9.5)	6.0 (5.2–6.4)	3.2 (3.0–3.6)	=	6–7	B	3–4	a	in orbit	*Notemigonus crysoleucas*	Canada	
M. maruliensis (Sarkar, 1985) Landsberg & Lom, 1991	15.9 (12.0–17.5)	4.3 (2.5–5.0)		10.5 (7.5–13.0)	1.5 (1.0–2.0)	=,≠	9–11	A			kidneys	*Channa marulius*	India	39
M. mbailaoi Fomena, 2004	11.5 (11–12)	7.7 (7.2–8)		4.7 (4–5.5)	2.4 (2–3)	≠	8–9	A	0.19–0.52 × 0.16–0.5	j	operculum, skin, intestine	*Citharinus citharus*	Tchad	292
M. medius (Fantham, 1939) Landsberg & Lom, 1991	11–16.8	7.7–10.4		5–8.2	1.8–3.2	=		A			in body-cavity	*Notropis cornutus*	Canada	
M. megalobramae Wu & Li, 1986	8.9 (8.8–9.3)	8.6 (8.4–8.9)	5.4 (4.8–5.7)	4.2 (3.8–4.3)	2.8 (2.6–3.1)	=		C	0.6–1 × 0.3–0.4	h	intestine	*Megalobrama amblycephala*	China	
M. meglitschi (Meglitsch, 1937) Grinham & Cone, 1990	12–14	11–13	7–8.5	6–7	3–4	=		A	0.5	a	gills	*Carpioides cyprinus*	USA	187
M. melenensis Fomena, 1985	11.3 (10.2–12.1)	10.8 (10.0–11)		6.2 (5.1–7.0)	4.0 (3.5–4.8)	=	6–10	A	0.275–0.336 × 0.24–0.265	a	gills, palate	*Hemichromis fasciatus*	Cameroon	
M. mesentericus Kudo, 1919	10–11.5	8.5–9.5	6.5	4.7	1.5–2	=		A	0.5–1.5	a	mesentery, liver, spleen	*Lepomis cyanellus*	USA	267
M. mesopotamiae Molnár et al., 1996	9.2 (8.9–9.4)	8.1 (7.8–8.5)	5.8 (5.2–6.0)	3.8 (3.6–4.2)	2.5 (2.4–2.7)	=	7	C			conn. tissue of fins	*Barbus grypus*	Iran	
M. mexicanus Yoshino & Noble, 1973	8.7 (7.5–10)	6.2 (5.5–7)		2.9 (2–4)	1.6 (1–2)	=		B	1.2–2.5	e	kidneys	*Coelorhynchus scaphopsis*	Off Mexico	
M. microcapsularis Sakiti et al., 1991	13 (10–14)	7.5 (5.5–9)		3.1 (2–3.5)	2.4 (2–3)	=	4–5	A	0.075–0.25 × 0.1–0.65	a, b	gill arch connective tissue	*Tilapia zilli*	Benin	
M. microcystus Price & Mellen, 1980	12.5 (11–14)	7.5 (7–10)	5.5 (5–7)	6.5 (5–7)	2.5 (2–4)	=	6–7	B	0.3–0.75	b, l	gills	*Micropterus salmoides*	USA	
M. microlatus Li & Nie, 1973	8.2 (7.2–8.4)	10 (9.6–11.4)	7.0 (6.8–7.2)	5.0 (4.2–6.0)	3.8 (3.6–4.0)	≠	4–5	D	0.0564 × 0.054	a	almost all organs	*Cyprinus carpio*	China	140
M. microsporus Li & Nie, 1973	11 (9.6–12)	7.4 (7.2–8)	4.8 (4.6–5.0)	5.6 (4.2–6)	2.9 (2.8–3.6)	≠	5–6	D			almost all organs	*Ctenopharyngodon idellus*	China	133
M. microthecus (Meglitsch, 1942) Landsberg & Lom,1991	11.7 (10–12.5)	10.2 (8.3–11.4)	4.5 (4.3–5.2)	5.5 (3.8–6.3)	3.4 (1.9–3.2)	=	5–7	B	0.35 × 0.3 × 0.05	b, c	mesenteries, peritoneum	*Minytrema melanops*	USA	79
M. minkiangensis Ma & Zhao, 1998	11.5 (11.2–12)	7.8 (7.6–8.0)	6.0 (5.9–6.2)	5.8 (5.0–6.8)	2.8 (2.4–3.0)	=		A		h	kidneys	*Acrossocheilus yunnanensis*	China	

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. minor Chen in Chen & Ma, 1998	10.4 (9.6–11.4)	7.0 (7.2–8.4)	6.0	4.8 (4.3–5.6)	3.1 (3.0–3.4)	=	4–5	B			gall-bladder	*Aristichthys nobilis*	China	120
M. minutus Nemeczek, 1911	6	4.2–5		3	2	=		E	0.5–3 × 0.5–1	b,c,m	gills	*Leuciscus leuciscus, L. cephalus*	Germany	245
M. mississipiensis Cone & Overstreet, 1997	17.7 (16.4–18.7)	5.2 (3.9–6.2)	5.4 (4.7–6.2)	7.2 (5.5–7.8)	6.3 (5.5–7.0)	=	9–10	A	up to 0.3	j	gill lamellae	*Lepomis macrochirus*	USA	
M. miyairii Kudo, 1919	13–14.5	6–7		4.5		=		A	up to 0.5		intestine	*Parasilurus asotus*	Japan	
M. miyunensis Chen in Chen & Ma, 1998	11.7 (10.8–12)	9.2 (8.4–9.6)	6	5.9 (5.4–7.2)	2.6 (2.4–3.0)	=	8–9	D			kidneys	*Cyprinus carpio*	China	125
M. mokhayeri Baska & Masoumian, 1996	15.8 (14.4–16.6)	12.5(11.6–13.3)	8.6 (8.3–9.1)	7.5 (7.7–7.9)	4.6 (4.1–4.9)	≠	7–9	A	0.5 × 0.12	b, d	between soft fin rays	*Capoeta trutta*	Iran	109
M. molnari Baska & Masoumian, 1996	14.2 (13.3–14.6)	10.7(10.4–11.6)	7.4 (6.9–7.8)	6.8 (6.7–7.2)	3.9 (3.5–4.2)	=	6–7	D	0.3 × 1.0	b, d	gills	*Capoeta trutta*	Iran	
M. monopterus n. comb. for *Myxosoma monopterus* Chen in Chen & Ma, 1998	8.7 (7.8–9.6)	7.3 (7.0–7.4)	6.0	3.6 (3.0–3.6)	2.4 (2.2–2.6)	=	5–6	A			posterior intestine	*Monopterus albus*	Off China	
M. montanus Azhurova & Pugachev, 1988	11–13.2	8.8–10.7	6–7.2	5.2–6.6	2.9–3.9	≠		C			gills	*Schizopygopsis stolitzkai*	Central Asia	235
M. morrisonae Lom & Cone, 1996	10 (9.6–10.5)	9.5 (9.1–10.3)	5	5.5 (5.3–5.8)	3.7 (3.4–4.0)	=	6	A	up to 1.5 × 0.3	d	gills	*Ictiobus bubalus*	USA	
M. moshanensis Chen in Chen & Ma, 1998	12.6 (12–13.4)	12.5 (11–13.4)	7.9–8.5	6.2 (6.0–6.6)	4.3 (3.6–5.0)	=	3–4	B			kidneys	*Misgurnus anguillicaudatus*	China	
M. moxostomi Nigrelli, 1948	7.6 (6.2–9.4)	7.2 (5.5–9.4)	3.9 (3.1–4.7)	3.6 (2.3–3.9)	2.3 (1.6–3.2)	=	3–5	E	0.5–4	e	corium	*Moxostoma aureolum*	USA	
M. moyangensis Chen in Chen & Ma, 1998	9.8 (8.6–10.8)	7.3 (6.7–7.8)	4.8 (4.6–4.8)	4.1 (3.6–4.8)	2.5 (2.4–2.6)	≠	5–6	B			intestine	*Rhodeus sinensis*	China	148
M. mrigalae Chakravarty, 1939	7.2	8.2	6.2	5.2	3.1	≠		E	0.75–1.5 × 0.75–1	b	scales	*Cirrhina mrigala*	India	40
M. mrigalhitae Basu & Haldar, 2003	10.8 (10.2–11.3)	7.9 (7.6–8.1)		4.8 (4.3–5.2)	2.9 (2.7–3.2)	≠	5–6	B		c	gills	*Cirrhinus mrigala* × *Labeo rohita*	India	282
M. mugcephalus (Narasimhamurti, 1980) Landsberg & Lom, 1991				1.6–2.0	1.0–1.2	=	5–6	A	0.5–1.0	c	gills	*Mugil cephalus*	Off India	41
M. mugchelo (Parenzan, 1966) Landsberg & Lom, 1991	5.9 (5.8–6)	4.6 (4–5)				=		A	2		mesenteries	*Mugil chelo*	Off Italy	
M. mugilii Haldar et al., 1996	11.7 (8.1–16.3)	5.5 (4.0–7.3)		6.1 (2.4–8.1)	2.7 (1.6–4.0)	=		A			gills	*Mugil cephalus*	India	
M. muelleri Bütschli, 1882	6–14.5	7–12	6–7	3–7.5	2.5–3	=		E	0.2–3	a, h				225
M. multiplicatus (Reuss, 1906) Grinham & Cone in Grinham & Cone, 1990	12.0 (12.0–12.5)	9.5 (9.2–9.5)	6.0 (6–6.5)	4.0 (3.5–4.5)	2.2 (2–2.5)	=		E			muscle	*Idus melanotus*	Russia	241
M. musajevi Kandilov, 1963	11.5–14	10–11		6–7	3.3–5	=		C			gills	*Varicorhinus capoeta*	Caucasus	
M. musseliusae Yakovchuk, 1979	10.5–11.1	8.8–10	7.2	3.9–4		≠		C	1	a	gills	*Cyprinus carpio*	Russia	256
M. mutabilis Kudo, 1934	9.5–12	7.5–9	6–7	5–6.5	2 -3.5	=		A	< 1	b, e, l	integument	*Pimephales notatus*	USA	
M. mylopharyngodoni Nie & Yin, 1973	14.2 (12–15.6)	11.1 (10.8–12)	9.7 (9.6–9.8)	9.2 (8.4–10.8)	7.8 (7.2–8.4)	≠	6–7	B	0.172 × 0.132	c, h	gills, kidneys, fins	*Mylopharyngodon piceus*	China	
M. mystusius Sarkar, 1986	13.2 (12.2–13.9)	9.4 (8.8–10.5)	7.3 (6.9–7.6)	7.2 (6.2–7.6)	3.6 (2.8–4.2)	≠	8–9	A			gills	*Mystus vittatus*	India	42
M. naffari Ghaffar et al., 1998	11.9 (10.8–13.2)	8.8 (7.8–9.8)		5.1 (4.5–6.2)	2.9 (2.5–3.0)	=	7–9	C			gills	*Labeo niloticus*	Egypt	108
M. nanhaiensis n. comb. for *Myxosoma nanhaiensis* Chen in Chen & Ma, 1998	13.1 (12–13.8)	8.4 (8–8.6)	6.0 (5.4–7.0)	4.8 (4.6–5.2)	2.7 (2.4–3.2)	=		B			kidneys	*Capoeta semifasciolata*	China	

M. nankuensis Chen in Chen & Ma, 1998	9.1 (9.0–10.8)	7.7 (7.2–8.4)	6	4.8 (4.6–4.9)	2.5 (2.4–2.8)	=	6–7	B			gills	*Zacco platypus*	China	
M. nanyangensis nom. nov. for *Myxosoma carassii* Hu, 1965	15.4 (12.5–17.5)	10.4 (8.7–12.5)	7.9 (7.5–8.7)	8.3 (6.2–8.7)	3.5 (3.1–3.7)	=	9–10	B	0.08–0.12	c	gills	*Carassius auratus auratus*	China	275
M. nanyuensis Chen in Chen & Ma, 1998	18.8 (18–19.2)	8.8 (8.4–9.6)	8.0 (7.2–8.4)	11.4 (10.8–13)	3.6 (3.6–3.8)	≠	9–10	B			gills	*Carassius auratus auratus*	China	
M. narasii (Narasimhamurti, 1970) Landsberg & Lom, 1991	12.5–13.5	8.6–9.5		2.9–3.6	1.6–1.8	=		A			gut epithelium	*Mugil waigensis*	Off India	
M. narzikulovi Dzhalilov & Ashurova, 1971	12–14	7–9	5–6	3–5	2–3	=		B			kidneys	*Nemacheilus stolitzkai*	Central Asia	
M. negmgoda nom. nov. for *Myxobolus synodontis* Negm-Eldim et al., 1999	10.5	6.2		5.2	2.1	=	7–10	A	1.4 × 1.3	b	gills	*Synodontis schall*	Egypt	270
M. nemacheili Weiser, 1949	9–11	8–9	6	5	2	=		A	0.2–1.5		head connective tissue	*Nemacheilus barbatulus*	Czech Rep.	
M. nephroides Li & Nie, 1973	10.2 (9.6–10.8)	9.9 (9.4–10.8)	6 (5.4–6.5)	5.2 (4.8–5.7)	3.5 (3.0–3.8)	≠	6–7	C	0.05		kidneys, spleen, gall-bladder	*Hypophthalmichthys molitrix*	China	
M. neurobius Schuberg & Schröder, 1905	10–12	8	6	6–7		=		E	0.9 × 0.02	c, d	nervous system	*Salmo trutta m. fario*	Germany	
M. neurophilus (Guilford, 1963) Landsberg & Lom, 1991	13.9 (12–16)	6.2 (6–8.5)	4.9 (4–6)	6.8 (5–8)	1.4–2.4	=		A	0.03 × 0.045 to 0.95	a, b	optic tectum in midbrain	*Perca flavescens*	USA	43
M. niei Shulman, 1962	9.5–9.8	9.5–9.8		5.5–5.9	3.1	≠		E			skin	*Percottus glehni*	China	
M. nielii (Nie & Li, 1973) Landsberg & Lom, 1991	10 (8–12)	8.6 (8.4–9.6)	6.0	4.7 (4.2–5.0)	2.9 (2.4–3.0)	=	5–6	D	1–1.5; 0.15–0.26 × 0.12–0.3	c, h	almost all organs	*Cyprinus carpio*	China	216
M. nijnei Fomena et al., 1985	16.1 (14.0–20.0)	13.4 (11.6–18)		7.8 (6.5–9.0)	4.5 (3.5–5.4)	=	7–8	D	0.097–0.321	a	gill arch connective tissue	*Barbus camptacanthus*	Cameroon	97
M. nile nom. nov. for *M. mugilis* Negm-Eldin et al., 1999	7.4	7.3		3.6	2.1	≠	6–8	A	2.1 × 0.2	d	gills	*Mugil cephalus*	Off Egypt	87
M. niloticus Fahmy, Mandour & El-Naffar in Negm-Eldin, 1999	10.2–11	6.3–7.8		5.2–6.8	2.5–3.3	≠		E			fin rays	*Labeo niloticus*	Egypt	116
M. ningnanensis Ma & Zhao, 1998	12.9 (12.8–13.2)	6.1 (5.6–6.4)	5.0 (4.8–5.2)	6.9 (6.4–8.0)	2.5 (2.4–2.8)	=		A	0.007 × 0.65; 2.27 × 1.625	h	gills	*Semilabeo prochilus*	China	
M. ningpoensis Chen & Ma, 1998	9.8 (9.0–10.5)	11.3 (10–12)	5.7 (5.5–6.0)	4.8 (4.6–5.0)	2.8 (2.7–3.0)	=		A			gills	*Anguilla japonica*	China	118
M. nobillis Li & Nie, 1973	12.7 (12–14)	10.6 (10.2–12)	6.6–6.8	7.4 (7.2–7.5)	5.4 (4.5–5.8)	≠	9	D	0.12	c	almost all organs	*Hypophthalmichthys molitrix*	China	158
M. noblei (Sarkar, 1982) Landsberg & Lom, 1991	12.7 (11.5–14.3)	9.5 (8.3–10.5)		7.0 (5.8–8.5)	3.7 (3.0–4.5)	=	7–8	A	0.1 × 0.121	b	gall-bladder	*Ophiocephalus striatus*	India	
M. nodosus Kudo, 1934	9–10.5	8.5–9.5	7	5–6	2.5- 3.5	=		A	0.5–1	c	integument	*Pimephales notatus*	USA	
M. nodularis Southwell & Prash, 1918	9	7.2		3.4		=		A	3.5–3.8 × 2.3–2.8	c, d	muscles	*Rasbora daniconius*	India	
M. nodulointestinalis Masoumian, Baska & Molnár, 1996(b)	12.6 (11.7–13)	8.1 (7.8–9.1)	6.3 (5.2–7.2)	3.6 (2.6–3.9)	2.4 (2.2–2.6)	=	4–5	B	5		smooth muscle layer of int. wall	*Barbus sharpeyi, B. luteus*	Iran	92
M. noemacheilusi n. comb. for *Myxosoma noemacheilusi* Ma & Zhao, 1992	10.6 (10.4–11.2)	8.4 (7.2–9.6)	6.2	5.0 (4.6–5.2)	3.0 (2.8–3.2)	=		A			gall-bladder	*Noemacheilus fasciolatus*	China	
M. noguchii Pinto, 1928	13.6	8.5		6.8	2.2			E			gills	*Serrasalmus spilopleura*	Brazil	
M. nokoueensis Sakiti, 1991	10.0 (8.1–11.5)	6 (5–7)		3.4 (2.5–4)	2 (1.6–2.7)	=	5–6	B			gills	*Sarotherodon melanotheron*	Benin	101
M. nkolyaensis Fomena & Bouix, 1994	9.0 (8.0–11.0)	8.3 (7.2–11.5)		4.4 (3.5–5.5)	3.0 (2.2–3.5)	=		A			caudal muscles	*Barbus jae*	Cameroon	
M. notropis Fantham et al., 1939	11.8–13.2	7.3–9.5		4.5–6.4	1.8–2.7			A	up to 2		body surface	*Notropis heterolepis*	Canada	44

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. nounensis Fomena & Bouix, 2000	14.3 (13–15)	12.8 (11.5–14)		5.8 (5–6.5)	4.5 (4–5)	=	4–5	D			kidneys, spleen	*Sarotherodon galilaeus*	Cameroon	
M. notemigoni Lewis & Summerfelt, 1964	11.8	8.9	7.5	4.1	3.3	=	6–8	B	0.9–3.0	e	ventral side abdom. region	*Notemigonus crysoleucas*	USA	
M. nuevoleonensis Salinas et al., 1991	12.0 (10.7–13.7)	7.3 (6.1–7.6)	6.1 (6.1–6.1)	7.6 (6.1–9.1)	3.4 (3.0–4.5)	≠	10–11	E	0.1–0.6	a, b	fin bones	*Poecilia mexicana, P. reticulata*	Mexico	185
M. nukiangensis Ma, 1998	7.7 (7.2–8.)	6.5 (6.4–6.8)	4.8	4.2 (4.0–4.8)	2.9 (2.4–3.2)	=		A			gills	*Epalzeorhynchus bicornis*	China	
M. obesus Gurley, 1893	8.7–12.5	7.4–11.2	6.2–7.4	4.5–6	2.5–3.7	=		E	0.8	b, d	gills	*Alburnus alburnus*	France	
M. obliquoides Nie & Yin, 1973	10.8 (10–12)	16.6 (15.6–19)	8.5	9.0 (8.8–9.6)	7.5 (7.4–8.4)	≠	6–7	D			gills, kidneys, spleen	*Mylopharyngodon piceus*	China	
M. obliquus Kudo, 1934	8–9	7–8	5–6	4.5	2	=		B	0.5–1.8 × 0.06–0.25	i	muscle	*Carpioides velifer*	USA	
M. oblongus Gurley, 1893	14–17	8.5	5–6					E	< 1	c, h	head integument	*Erimyzon sucetta*	USA	
M. obovoides Li & Nie, 1973	14.2 (13.8–14.4)	13.5 (13–14.4)	8.4	7.7 (7.2–8.0)	5.8 (5.4–6.0)	=	7–8	D	0.157 × 0.132	c, h	gills, skin, liver, ur. bladder	*Cyprinus carpio*	China	130
M. obpyriformis Shulman, 1962	12–15	9–12	6	4.5–6		=		B			gills, muscles	*Schizothorax intermedius*	Central Asia	
M. occularis Abu-El-Wafa, 1988 (in Negm-Eldin, Govedich & Davies, 1999)	9.6	8.5		5.6	3.4	=		E			eye	*Tilapia* sp.	Egypt	
M. ochridensis Georgevich, 1950	17–18	6.5–7		10–11		=		E		d	gills	Lacustrine fishes	Macedonia	
M. ochowensis Chen in Chen & Ma, 1998	12.8 (12–13.2)	9.5 (8.4–10.2)	7.1 (6.6–7.2)	6.6 (6–7.4)	3.2 (3.0–3.6)	≠		B	2.0–9.5	c, e	dorsal fins	*Pelteobagrus fulvidraco*	China	
M. odontobutisus Chen in Chen & Ma, 1998	8.7 (8.4–9.6)	8.8 (8.5–9.8)	6.7 (6.6–7.2)	4.9 (4.8–5.0)	3.5 (3.0–3.6)	=	5–6	C			intestine	*Odontobutis obscurus*	China	
M. ogilbyi (Johnston & Bancroft, 1919) Landsberg & Lom, 1991	11–13	6–8	5	5–6	2			A	< 1		gill arches	*Plectroplites ambiguus*	England	
M. okobojiensis Otto & Jahn, 1943	11.7	10.2–11.7		5.8		=	8	A	0.5 × 0.5; 0.3 × 0.3; 0.2 × 0.2	a	intestine	*Pomoxis sparoides*	USA	
M. olidus (Langdon, 1990) Kalavati et al., 2000	9.0–10.0	7.0–8.0	4.0–5.5	4.2–5.0	2.2–2.5	=	6	A	0.05–04		spinal cord	*Galaxias olidus*	Australia	
M. oloi Fomena & Bouix, 1994	9.3 (6.3–11.5)	7.2 (5.1–9.4)		5.7 (4.0–7.0)	3.1 (1.8–4.0)	≠	4–5	A			gill arch epithelium, gullet	*Barbus aspilus*	Cameroon	105
M. omeiensis Ma & Zhao, 1993	11.8 (11–12.8)	10 (9.6–10.4)	5.2 (4.8–5.6)	4.6 (4.4–4.8)	2.9 (2.8–3.2)	=		C	0.1012 × 0.07771	b	kidneys	*Saurogobio dabryi*	China	
M. ophiocephaili Ma, 1998	12.0 (11.4–13.6)	6.4 (6.0–6.8)	4.7 (4.4–4.8)	5.2 (4.8–5.6)	1.7 (1.6–2.0)	=	5	A	0.267–1.83 × 0.18–1.67	c	fins, skin, gall-bladder	*Ophiocephalus striatus*	China	
M. ophicephali Bhatt & Siddiqui, 1964	11.6–13.3	4.6–6.3		6.7–7.3	1.2–2.0	≠		A	1.5–2.0 × 0.43–0.55	b	acessory respirat. membrane	*Ophiocephalus punctatus*	India	46
M. opienensis Ma & Zhao, 1993	11.6 (11.2–12)	8.8 (8.6–9.0)	5.6 (5.5–5.8)	5.2 (4.8–5.6)	3.2 (3.1–3.3)	=		A	2.051 × 1.956	b	gills		China	167
M. opsariichthysi Li & Nie, 1973	10.7 (9.9–12)	8.4 (6.0–9.6)	6.1 (6.0–6.2)	4.7 (4.2–4.8)	3.0 (2.8–3.6)	=		B			almost all organs	*Opsariichthys bidens*	China	155
M. orbiculatus Kudo, 1919	9–10	9–10	6.5–7	6–7.5	2.5–3	=		A			muscles	*Notropis gilberti*	USA	
M. orbitalis (Fantham et al., 1939) Landsberg & Lom, 1991	13.3–17.5	8–12		4.1–6.4	1.8–3			A			eye	*Notropis cornutus*	Canada	
M. orientalis Shulman, 1962	19–19.6	10.5–11	8–8.4	12–13.5	3.8–4	=		D	1.5	a	gills	*Carassius auratus gibelio*	China	
M. orissae Haldar et al., 1996	15.7 (13.0–19.5)	6.8 (4.9–8.1)		8.8 (7.3–11.8)	1.7 (2.4–3.2)	≠		B			gills	*Cirrhina mrigala*	India	228
M. ornatus Akhmerov, 1960	10	9		6	3	=		D			muscles	*Acanthorhodeus asmussi*	Amur basin	
M. osburni Herrick, 1936	10.1 (9.6–11.2)	11.7 (9.6–12.8)	6.8 (6.4–8.0)	4.8–5.6		=	6–7	A	0.5–1.5	b, c	mesenteries, peritoneum	*Micropterus dolomieu*	USA	
M. osmaniae Lalitha Kumari, 1969	13.5 (12.0–15.0)	8.6 (7.1–10.0)		5.6 (5.0–7.1)	3.2 (2.9–3.9)	≠	5–6	A	1–1.5		liver, intestine	*Barbus punjaubensis*	India	47

M. osteochilus n. comb. for *Myxosoma osteochilus* Chen in Chen & Ma, 1998	11.0 (10.2–12.0)	7.7 (7.2–8.4)	5.1	5.0 (4.8–5.8)	2.6 (2.5–2.8)	≠	6–7	B			kidneys	*Osteochilus salsburyi*	China	
M. osteochilusis Chen in Chen & Ma, 1998	11.0 (10.8–12)	7.3 (7.2–7.6)	5.4 (5.2–5.6)	4.8 (4.6–5.0)	2.5 (2.4–2.8)	≠	6–7	C			gills	*Osteochilus salsburyi*	China	
M. ovalis (Davis, 1932) Grinham & Cone, 1990	15–17	about 15	about 11	about 8–9	6	=	5–6	A	0.5–0.9	b, c	gills	*Ictiobus bubalis, I. cyprinella*	USA	48
														241
M. ovatus Kudo, 1934	11.5–13.0	9–10	7	5.5–6.5	2.5–3	=		A	1.5–1; 1–2		integument	*Ictiobus bubalis*	USA	
M. oviformis Thélohan, 1892	10–12	8		6				E			fins	*Gobio gobio*	France	
M. ovoidalis Fantham, 1930	19–26	8–15	6.5–9	11–14	8–4	≠		A	6 × 2 × 1.5		subcutaneous tissue	*Barbus sp., Cyprinus carpio*	South Africa	71
M. paludinosus Reed et al., 2002	12.0 (11.2–13.7)	8.6 (7.5–10.0)		5.7 (5.0–6.8)	2.4 (2.0–2.5)	=	6–7	A	0.3	c	gills	*Barbus paludinosus*	Botswana	
M. parabotia nom. nov. for *Myxosoma obliqus* Ma & Zhao, 1992	10.8 (10.4–11.2)	8.4 (8.0–8.8)	7.0	6.2 (5.6–6.8)	2.6 (2.4–2.8)	≠		A			gall-bladder	*Parabotia fassiata*	China	287
M. paracuta Ma, 1993(a)	13.2 (12.1–13.6)	9.7 (9.1–10.6)	5.6 (5.5–6.0)	9.4 (8.6–10.4)	5.3 (5.2–6.7)	≠	7	A	0.33 × 0.25	b, c	gills	*Mylopharyngodon piceus*	China	
M. paradiscogobie Ma, 1998	9.3 (8.8–9.6)	7.4 (7.2–8.0)	5.6	5.7 (5.6–6.4)	2.9 (2.4–3.0)	≠		A			kidneys, urinary bladder	*Discogobio yunnanensis*	China	
M. paradispar Chen in Chen & Ma, 1998	11.3 (9.6–12)	9.0 (8.6–9.6)	6.2 (6.1–6.3)	4.3 (4.0–4.8)	3.5 (2.6–3.6)	≠	5–6	D			gall-bladder	*Aristichthys nobilis*	China	
M. paradisparoides Ma, 1998	16 (15.2–16.8)	9.6 (8.8–10.4)	8.0	8.0 (8–8.8)	4.0	≠	7–8	A	0.18 × 0.957	c	gills, skin, fins	*Schizothorax davidi*	China	156
M. paralintoni Li & Desser, 1985	11 (9.5–11.5)	10 (9–11.5)	6.5–7.5	4–4.5	2–2.5	=	5	B			heart	*Lepomis gibbosus*	Canada	
M. parallelipticoides (Fantham, 1939) Landsberg & Lom, 1991	11.4–16.4	7.3–10		4.1–5.5	2.3–3.2			A	10		visceral cavity	*Pfrille neogaeus*	Canada	49
M. paranensis Bonetto & Pignalberi, 1965	12–15	7–8		6–7	2.5	=		A	0.4–2.0	c	gonads	*Salminus maxillosus*	Argentina	
M. paramisgurni n. comb. for *Myxosoma parasmigurni* Wu & Chen, 1987	11.9 (11.2–12.1)	11 (10.7–11.9)	7.1 (6.9–7.3)	5.9 (5.4–6.4)	4.2 (4.1–4.5)	=	4	B	1.5	c	kidneys	*Paramisgurnus dabryanus*	China	
M. paratoyamai Nie & Li, 1992	12.5–14.2	5.5–7.0	5.0	6.2–7.4	2.2–2.5	≠		A			nares, ureter	*Cyprinus carpio*	China	172
M. parenzani (Parenzan, 1966) Landsberg & Lom, 1991	5.4 (5–6)	5.4 (5–6)				=		A	2.5		gills	*Mugil chelo*	Off Italy	
M. parvus Shulman, 1962	6.5–7	5.5–6	4–4.2	3.8–4.2	2	=		B	1 × 3		gills	*Mugil cephalus, M. soyu*	Off China	
M. pavlovskii (Akhmerov, 1954) Landsberg & Lom, 1991	9–10	10–11.5		5–6	3–3.5	≠		D	1–3	a	gills	*Hypophthalmichthys molitrix*	Amur basin	198
M. peachiformis Ma, 1998	16.0 (15.6–16.3)	12.0 (11.4–13)	8.3 (8.1–8.4)	7.9 (7.5–8.4)	4.2 (3.8–4.2)	=		A			gills, fins	*Zacco platypus*	China	
M. pekingensis Chen in Chen & Ma, 1998	14.3 (13.2–15.6)	10.6 (8.4–13)	7.6 (7.2–8.4)	6.1 (6.0–6.6)	3.5 (3.0–3.6)	=	6–7	D			intestine, liver, kidneys	*Carassius auratus auratus*	China	150
M. pellicides Li & Desser, 1985	15 (14.5–16.5)	9.5 (8–11.5)	7.5–8	6 (5–7)	3.5 (3–4)	=	7–8	A	1–1.7		gills	*Semotilus atromaculatus*	Canada	
M. pelteobagrus n. comb. for *Myxosoma pelteobagrus* Ma & Zhao, 1998	11.2 (10.4–12)	7.6 (7.2–8.0)	4.2 (4.0–4.8)	5.1 (4.8–5.6)	2.5 (2.4–2.8)	=		A	0.147 × 0.106	b, c	kidneys	*Pelteobagrus nitidus*	China	
M. pendula (Guilford, 1967) Landsberg & Lom, 1991	15.3 (13.2–16.5)	10.4 (8.8–12.1)	7.8 (6.6–8.8)	6.8 (6–7.7)	3.4 (3.3–4.4)	=	6–7	A	1–1.55	a	gill arches	*Semotilus atromaculatus*	USA	
M. percae Fantham et al., 1939	7.3–10.4	4.1–6.8		3.2–5.5	1.3–2.3			A	1		base pectoral fin	*Perca flavescens*	Canada	
M. percarinae Iskov & Karataev, 1982	10.8–13	7.2–9.6		3.6–4.8	2–2.4	=		E			gills, kidneys	*Percarina demidoffi*	Ukraine	
M. percocypris Ma, 1998	10.0 (9.6–10.4)	8.4 (8.0–8.8)	5.6 (5.5–5.8)	4.6 (4.0–4.8)	2.4 (2.3–2.5)	≠		C			gills	*Percocypris pingi*	China	
M. perforata Ali et al., 2002	10.4 (9.9–11.3)	5.2 (4.5–5.9)		5.2 (4.0–5.4)	2.4 (1.2–2.7)	=	9	A	6.0 × 0.8	d	internal surface of operculum	*Hydrocynus forskalii*	Off Egypt	
M. permagnus Wegener, 1910	17–20	10–11.5		7–11.2	4–4.5	=		A		c	gills, opercula, swim-bladder			226
M. persicus Masoumian et al., 1994	10.0 (9.1–10.4)	7.3 (6.5–7.8)	6.3 (5.2–6.5)	5.1 (4.5–5.8)	2.7 (2.6–3.2)	≠	7–8	B	0.5 × 0.8	c, h	gills	*Barbus grypus, B. luteus*	Iran	283

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. petenensis Frey, 1998	11.8 (10.1–13.1)	13.8 (12–15.8)	0.8 (0.7–0.9)	7.1 (6.0–8.0)	5.3 (4.8–5.7)	≠	8–11		0.1–1.6	b, c	circumorbital integument	*Dorosoma petenense*	USA	50
M. petruschevskii Zhukov, 1962	11–12	11–12	7–8.2	5.5–6.5	2.7–3.6	=		A			cartilage	*Myoxocephalus axillaries*	Bering Sea	
M. pfeifferi Thélohan, 1895	10–13	9–12.2	6.3	5–5.7		=		B	1.5–2.0	b,c,d,k	muscles, gills, kidneys, spleen	*Barbus barbus*		227
M. pfrille (Fantham, 1939) Landsberg & Lom, 1991	12.7–19.1	7.7–11.4		4.5–6.4	1.8–3.2			A			body-cavity	*Pfrille neogaeus*	Canada	
M. pharyngeus (Parker, 1971) Landsberg & Lom, 1991	16.5 (15.0–17.0)	5.9 (5.0–6.5)	5.0 (4.2–5.5)	7.2 (6.8–8.0)	1.9 (1.5–2.0)	≠	8–11	A	0.5–1.5	k	pharyngeal epithelium	*Gambusia affinis*	USA	51
M. phoxinaceus (Bauer, 1948) Landsberg & Lom, 1991	16–17	10–11		8.5–9	3	=		A	1.5	a	gills	*Phoxinus czekanowski*	Siberia	
M. phylloides Shulman, 1962	9–10	7–7.5	5–5.5	5.7–6.5	2.8–3.5	=		B	0.5	a	abdominal serosa	*Hypophthalmichthys molitrix*	Amur basin	
M. pinna Wu & Chen, 1987	16 (14.8–17.1)	9.4 (8.6–10)	7.4 (7.1–7.6)	7.0 (6.2–7.4)	4.6 (4.0–4.8)	≠	7–8	A	0.5	c, e	fins	*Ctenopharyngodon idellus*	China	
M. pinnaurati Lalitha Kumari, 1969	9.6 (8.0–11.4)	7.0 (6.5–9.7)		4.4 (3.6–6.4)	1.9 (1.1–2.1)	≠		A			gills	*Barbus pinnauratus*	India	52
M. platyrostris Akhmerov, 1960	12	8		4	2.8	=		A				*Carassius auratus gibelio*	Amur basin	
M. plectroplites Johnston & Bancroft, 1919	10–12	7–8		5	2	=		E	0.036–1		kidneys	*Plectroplites ambiguus*	England	
M. pleuronectidae Hahn, 1917	14.8	11.9		6	3.7	=		D			integument	*Pseudopleuronectes americanus*	Off USA	
M. poecilichthidis Fantham et al., 1939	12.3–15.4	4.5–6.8		5–7.3	0.9–2.3			A	0.5		fatty tissue attached to gut	*Poecilichthys exilis*	Canada	53
M. poljanski Shulman, 1962	12–16.3	8.4–10.2	5.6–6.3	6.5–7.5		=		B	1–2.5	a, b	gills	*Pseudogobio rivularis*	China	
M. polycentropsis Fomena et al., 1985	13.2 (11.8–14.4)	7.0 (5.6–10.0)		4.0 (3.5–6.4)	1.7 (1.5–2.3)	=	4–5	A	0.13–0.522 × 0.075–0.235	a, b, d	gills arch cartilage	*Polycentropsis abbreviata*	Cameroon	
M. polymorphosporus Chen & Hsieh, 1960	17.7 (13.9–20)	12.7 (10.4–14)	11.2 (10–1.2)	8.6 (7.4–10.2)	4.8 (4.3–5.7)	=	7–8	B	0.19–0.3	a, b	intestine	*Channa maculata, C. argus*	China	
M. polymorphum Ma & Zhao, 1998	9.4 (8.8–10.4)	7.3 (7.2–8.0)	5.2 (4.8–5.6)	6.1 (5.6–7.0)	2.8 (2.4–2.8)	≠		A	0.0981 × 0.0818	a	gills	*Schizothorax prenanti*	China	
M. porofilus Adriano et al., 2002	5.7	4.8		1.6	1.1	=	3	A	3–5	a	body-cavity	*Prochilodus lineatus*	Brazil	
M. portucalensis Saraiva & Molnár, 1990	12.6 (11.2–15.0)	8.9 (7.5–10.0)	6.8 (5.6–7.5)	5.8 (3.7–7.5)	3.0 (2.5–3.7)	=	9–11	A	0.01 × 0.064; 0.36 × 0.45	a, b	caudal and pectoral fins	*Anguilla anguilla*	Portugal	
M. potaili Lalitha Kumari, 1969	7.2 (6.3–7.9)	5.4 (4.3–6.4)		3.3 (2.9–3.6)	2.0 (1.4–2.1)	=	3	B			gills	*Labeo potail*	India	
M. pratti (Wyatt, 1979) Landsberg & Lom, 1991	18.2 (17.0–20.5)	12.6(11.0–14.0)	7.9 (7.5–8.5)	6.6 (5.5–7.5)	3.2 (2.5–3.5)	=		A			kidneys	*Catostomus luxatus*	USA	
M. problematicus Shulman, 1962	9.5–11.5	5.5–6		6	3	≠		E			liver, gall-bladder	*Acheilognathus chaukaensis*	China	199
M. procerus (Kudo, 1934) Landsberg & Lom, 1991	15–17	6.5–7	5–6	7–9	1.5–2	=		A	0.5–1.5; 1- 2.5	a, e	integument, caudal fin	*Percopsis guttatus*	USA	
M. procypris Ma & Zhao, 1998	12.4 (12–12.8)	9.4 (8.8–9.6)	7.7 (7.5–8.0)	5.8 (4.8–6.4)	3.3 (2.8–4.0)	≠		A			kidneys	*Procypris rabaudi*	China	
M. psephurusi Chen & Hsieh, 1989	16.8 (14.4–19.2)	11 (9.6–12.4)	8.8 (8.4–9.0)	8.5 (7.8–9.6)	4.0 (3.6–4.6)	≠	9–10	D	0.05–0.07	b, h	kidneys	*Psephurus gladius*	China	
M. pseudobagrus Ma, 1998	18.2 (17–18.7)	10.7 (10–11.9)	8.5 (8.3–8.5)	9.4 (8.5–10.2)	5.1 (4.0–5.1)	=		A	0.076–0.078	b, h	buccal cavity	*Pseudobagrus pratti*	China	
M. pseudobpyriformis Ma & Zhao, 1998	12.6 (12–12.8)	8.8 (8.0–9.6)	8.0	5.8 (4.8–6.4)	2.9 (2.4–3.2)	≠		A			kidneys	*Schizothorax prenanti*	China	
M. pseudodispar Gorbunova, 1936	10–12	7–9.5	5.3–6	4.5–6.2	3–3.7	≠		E		b, d	muscle	*Rutilus rutilus*	Europe	181
M. pseudogobii Akhmerov, 1960	13.5–15	8.5–9	6	6–7	3–3.5	=		E			muscles, kidneys	*Pseudogobius rivularis*	Amur basin	
M. pseudokoi Li & Desser, 1985	13.5 (11.5–14)	6.5 (6–7)	5	6.5 (6–7.5)	2.5 (2–3)	=	6–7	A	0.08 × 0.12 to 0.5–0.8	a, b	gills, skin	*Notropis cornutus*	Canada	

M. pseudomicrosporus Ma & Zhao, 1998	12.0–13.0	6.4–7.0	6.0–6.1	4.8–5.5	2.4–3.0	≠		A			gall-bladder	*Acrossocheilus yunnanensis*	China	
M. pseudoparvus Li & Nie, 1973	8.6 (8.2–9.6)	8.1 (7.2–9.0)	6.1 (6.0–6.2)	3.7 (3.4–4.0)	2.5 (2.2–2.6)	=	5–6	B			skin	*Carassius auratus gibelio*	China	131
M. pseudorasborae (Hoshina, 1952) Landsberg & Lom, 1991	12.8 (10.8–14.1)	11.3 (9.9–12.6)	6.4 (5.5–7.9)	5.2 (4.0–6.8)	2.8 (2.2–3.1)	=	5–6	B	3.0–4.0 × 1.6–2.0	a, h	muscle	*Pseudorasbora parva*	Japan	
M. pseudosquamae Ma & Zhao, 1998	11.4 (11.2–12)	8.5 (8.0–8.8)	6.1 (6.0–6.4)	5.6	3.0 (2.8–3.2)	=		A	0.12815 × 0.1063	b, c	gills, kidneys	*Sinocyclochilus grahami tingi*	China	
M. pseudosquarae Chen in Chen & Ma, 1998	11.0 (9.6–12)	9.7 (9.6–10.2)	5.4	5.9 (5.0–6.2)	3.5 (3.0–3.7)	=	5–6	B			gills, caudal fin	*Carassius auratus auratus*	China	
M. psilorhynchi Lalitha Kumari, 1969	10.0 (9.3–10.7)	9.4 (8.6–10.0)		4.8 (4.3–5.7)	3.2 (2.9–3.9)	≠	6–7	D	0.5–1.0	d	gills	*Psilorhynchus balitora*	India	54
M. punctatus Chaudhuri & Chakravarty, 1970	14.5 (12.3–15.0)	6.7 (5.7–7.9)		9.3 (8.6–10.0)	2.6 (2.1–2.9)	=		A	1.0–1.3	a, b	pharyngeal epithelium	*Ophiocephalus punctatus*	India	
M. purkynjei Lom & Dyková, 1994	10.5 (10.2–11.0)	8.7 (7.8–9.4)	6.5–7	5.5 (4.6–6.5)	3.1 (2.3–5.4)	=	4–5	A	0.1–0.3	c	gills	*Girella tricuspidata*	Off Australia	
M. pygocentrus Penido, 1927	15–16	9–11		9–11	3–4	=		A			intestine	*Pygocentrus piraya*	Brazil	
M. pyramidis Chen in Chen & Ma, 1998	10.2 (9.6–11.0)	10 (8.4–10.8)	6.0	5.2 (4.5–6.0)	3.3 (3.0–3.6)	=	5–6	B			gills	*Carassius auratus auratus*	China	
M. pyriformis Ma in Chen & Ma, 1998	11.5 (11.2–12)	6.6 (6.0–7.0)	5.1 (4.8–5.6)	5.4 (4.8–5.6)	2.3 (2.0–2.4)	≠		B			skin	*Garra qiaojiensis*	China	
M. qiankiangensis nom. nov. for *Myxosoma chungnanensis* Chen in Chen & Ma, 1998	17.3 (15.6–18.0)	11.4 (10.6–12)	8.3 (8.0–8.4)	8.6 (7.8–9.6)	3.8 (3.6–4.2)	=	7–9	B		e	spleen, body-cavity	*Carassius auratus auratus*	China	276
M. qiaojiensis Ma, 1998	9.2 (8.0–9.6)	6.8 (6.3–7.2)	6.7	5.1 (4.8–5.4)	4.2 (3.6–4.8)	≠		B			urinary bladder	*Garra qiaojiensis*	China	
M. qingyiensis nom. nov. for *Myxobolus yaanensis* Ma & Zhao, 1998	11.2 (10–12)	8.6 (8–8.6)	6.1 (5.6–6.4)	5.6	2.6 (2.4–2.8)	=		C	1.885 × 1.625	h	gills	*Belligobio mummifer*	China	269
M. qionghaiensis nom. nov. for *Myxosoma rasborae* Chen in Chen & Ma, 1998	10.9 (10.8–11)	9.6	6.0	5.0 (4.8–5.4)	3.5 (3.4–3.6)	=	7–8	D			gills, intestine	*Rasbora cephalotaenia steimeri*	China	258
M. rachmani Allamuratov, 1966	13.5–14.3	11.2–12		7.2–7.5	3.7–3.9	≠		B	0.6–0.8	a	kidneys	*Alburnoides tenniatus*	Central Asia	236
M. raibauti Fall et al., 1997	15.3 (14–16)	12.1 (12–13)		5.9 (5–6.5)	3.6 (3–4)	=		B	variable	b	liver	*Mugil cephalus*	Off Senegal	
M. ranae Guyénot & Naville, 1922	11–12	8–10		4–5	2.5–3.5	=		A			dermis	*Rana temporaria*	Switzerland	
M. rasborae Chen in Chen & Ma, 1998	7.3 (7.2–7.8)	8.3 (8.2–8.6)	5.3 (5.0–5.6)	3.6 (3.4–3.6)	2.6 (2.2–2.6)	=		B			gills	*Rasbora cephalotaenia steimeri*	China	
M. reniformis Wu & Chen, 1987	10.2 (9.5–11.4)	13.7 (13–14.3)	8.3 (7.9–8.6)	6.9 (6.4–7.4)	5.4 (5.0–5.9)	≠	4–5	C			intestine	*Silurus asotus*	China	
M. rewansis Srivastava, 1979	9.6	8.0	6.4	4.8	3.2	=		D	2	g	scales	*Cirrhinus mrigala*	India	
M. rhinichthidis Fantham et al., 1939	8.6–11.8	5.9–8.2		3.6–5.5	1.8–2.7			A	about 2		skin	*Rhinichthys atronasus*	Canada	55
M. rhinogobii Chen in Chen & Ma, 1998	12.7 (12.0–13.8)	8.9 (7.4–8.4)	5.9 (5.5–6.0)	5.9 (4.8–6.0)	3.0 (2.6–3.4)	=	6–7	B			gills, muscles	*Rhinogobius giurinus*	Off China	
M. robustus (Kudo, 1934) Landsberg & Lom, 1991	14–16	10–11	7–8	6.5–7	2.5	=		A	1.3	a	integument connective tissue	*Notropis cornutus*	USA	
M. rocatlae Basu & Haldar, 2002	18.5 (17.5–19.3)	5.9 (5.6–6.2)		12.9(11.8–13.7)	2.8 (2.5–3.0)	=,≠	17–19	A	0.56 × 1.1	b	gills, gut wall	*Catla catla* × *Labeo rohita*	India	7
M. rohdei Lom & Dyková, 1994	11 (9.8–11.8)	8.9 (8.4–9.1)	6.5–7	4.3 (3.7–5)	2.8 (2.5–3.1)	=	3–4	A			kidney interstitium	*Mugil cephalus*	Off Australia	
M. rohitae Haldar et al., 1893	10.6 (9.9–12.1)	9 (8.8–9.9)		6.6	3.3	=	5–6	A	0.22–0.3	c	scales	*Labeo rohita*	India	
M. rutili Donec & Tozyyakova in Shulman, 1984	14–16.5	10.5–13.5	7.4–9.5	4.8–8.4	3–4.5	=		D	0.05–1.5	a, b	eyes, gills, fins, muscles	*Rutilus rutilus*	Ukraine	211
M. rutilus Nie & Li, 1973	8.5 (8.0–9.0)	6.8 (6.0–7.8)	4.9 (4.8–5.0)	4.8 (4.6–5.0)	2.5 (2.4–2.8)	=	3–4	B	0.0192 × 0.0092	c	kidneys, gall-bladder, muscles	*Aristichthys nobilis*	China	161

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. rotundatus Akhmerov, 1956	8–11	8–11	4.5	4.5–5	3–4	=		E	1	a	gut	*Cyprinus carpio haematopterus*	Amur basin	
M. rotundus Nemeczek, 1911	10	9.8	3	3.8–5		=		E	1–3 × 1–1.5	b	gills	*Abramis brama, Gobio gobio*	Germany	
M. sacchalinensis (Fujita, 1923) Landsberg & Lom, 1991	9–12	6–8.5	5.5–6	4–5	2–3.5			E			kidneys	*Carassius auratus gibelio*	Japan	182
M. saidovi Gasimagomedov, 1970	10	9–9.5	7	4–4.5	2.5–4.2	=		B			gills, kidneys	*Alburnus alburnus*	Kaspian Sea	
M. salmonis (Hoshina, 1949) Landsberg & Lom, 1991	8.2–10.4	7.4–9.5	5.5–8.3	3.6–5.8	2.1–3.4	=	5–6	D	4 × 2.2	e	lower side of scales	*Oncorhynchus keta*	Russia	
M. samgoricus Gogebashvili, 1966	9.1–11	7.8–9.2	4.9–5.2	3.1–3.9	1.8–3	=		B	0.4–1.5	a, b	fins, gills, kidneys	*Varicorhynus capoeta*	Caucasus	212
M. saranai (Tripathi, 1952) Landsberg & Lom, 1991	6.4–7	4.5–5	3.2–4.0	3.5	1.5	≠		A	0.27–0.45	l	gills	*Barbus sarana*	India	56
M. saratherodoni Sakiti et al., 1991	11.4 (9–13)	8.6 (7.5–10)		3.1 (2–4)	2.4 (2–3)	=		A	0.1–0.2	a, b, d	gills	*Saratherodon melanotheron*	Benin	
M. sarcochilichthydis Akhmerov, 1960	12	9		5	3.5	≠		E			liver	*Sarcochilichthys sinensis lacustris*	Amur basin	200
M. sarigi (Landsberg, 1985) Landsberg & Lom, 1991	11.3 (9.9–13.1)	8.4 (7.9–9.6)	5.2 (4.8–5.9)	4.5 (4.1–5.2)	3.2 (2.9–4.0)	=	4–5	A			spleen, kidneys	*Oreochromis aureus* × *O. niloticus*	Israel	57
M. saurogobii Feng & Wang, 1990	11.6 (11–12)	8.7 (8.5–9.1)		5.1 (4.5–6.5)	3.1 (2.5–3.2)	≠	3–6	B			kidneys	*Saurogobio dumerili*	China	
M. saurogobionis Cai & Wu, 1985	13.0 (11.7–14.3)	10 (7.8–10.4)	8.0 (6.5–9.1)	6.1 (5.2–6.5)	3.4 (2.6–3.9)	=		C	0.031–0.3 × 0.024–0.15	e	muscles	*Saurogobio gymnocheilus*	China	
M. scatophagi Haldar et al., 1996	14.0 (11.4–17.9)	5.3 (4.0–8.1)		7.1 (5.6–9.8)	2.3 (1.6–3.2)	≠		A			gills	*Scatophagus argus*	India	37
M. schizopygopsis Dzhalilov & Ashurova, 1971	9–13	9–11	7	5	3	=	10	D	0.5–4	d	gills	*Schizopygopsis stolitzkai*	Central Asia	
M. schizothoraxi Ma, 1998	13.4 (13.2–13.6)	8.4 (8.0–8.8)	7.7 (6.4–8.2)	6.7 (6.6–6.8)	4.8	≠		A			fins, gall-bladder, heart	*Abbottina kiatingensis*	China	157
M. schuberti Li & Desser, 1985	11.5 (8.5–12.5)	8.5 (7.5–10)	6.5	4.5 (3.5–5.5)	2.5 (2–3)	=	5	B		a, b	brain, kidneys	*Notropis cornutus*	Canada	
M. schulmani Donec, 1962	16.1–19	12.2–14.4	9–10	6–9	5–5.5	=		D	1–1.5 × 0.5	d	fins	*Abramis sapa*	Ukraine	
M. scleroperca (Guilford, 1963) Landsberg & Lom, 1991	16.4 (10–19.2)	8.7 (7.2–9.6)	7.1 (7.2–13)	9.5 (7.2–12.6)	2.4–3.6	≠	6–9	A	up to 5	a, e	dorsal area of eye	*Perca flavescens*	USA	58
M. semeniformis Ha, 1971	13.2 -14.4	4.8–6.0	3.6–4.2	4.5–6	1.4–1.8	=		A	up to 4	c	skin	*Cirrhina molitorella*	Vietnam	
M. semilabei Ma & Zhao, 1993	10.0 (9.6–10.4)	7.3 (6.8–8.0)	5.4 (5.2–5.6)	5.6	3.1 (2.8–3.2)	≠		B	0.20208 × 0.12749	b	kidneys, urin. bladder, ureter	*Semilabeo prochilus*	China	
M. senchowensis Chen in Chen & Ma, 1998	8.1 (7.4–8.4)	6.4 (6–7.2)	3.4–3.5	3.3 (3–3.6)	2.3 (2–2.4)	=	5–6	B			gills	*Hypophthalmichthys molitrix*	China	
M. serrasalmi Walliker, 1969	14.8 (12.5–18.0)	8.6 (7.0–10.0)		7.7 (6–9)	3.1 (2.5–4)	=		A			spleen, kidneys, liver	*Serrasalmus rhombeus*	Brazil	86
M. seshadrii Lalitha Kumari, 1968	12.2 (11.4–12.9)	9.0 (8.6–10.0)		5.7	3.6 (2.9–4.3)	≠		D			gills	*Labeo fimbriatus*	India	99
M. shadgani Molnár et al., 1996	13.9 (13.3–14.1)	13.7(13.3–14.1)	8.4 (8.3–8.6)	8.2 (7.9–8.3)	5.3 (4.9–5.5)	≠	8	B			gills	*Barbus rajanorum*	Iran	59
M. shantipuri Basu & Haldar, 2002	7.3 (6.3–8.2)	5.8 (5.2–6.1)		4.0 (3.5–4.1)	2.4 (2.0–2.8)	=,≠	4–5	A	0.14; 0.09 × 0.1	a, b	gills	*Catla catla* × *Labeo rohita*	India	45
M. shantungensis Hu, 1965	7.7 (7.2–8.4)	10 (9.6–10.8)	6.4 (5.8–7.3)	3.6 (3.6–3.8)	2.9 (2.6–3.2)	=		D	2–9	c	gills	*Aristichthys nobilis*	China	123
M. shaochingensis Chen in Chen & Ma, 1998	14.6 (12–15.6)	8.5 (7.2–9.0)	6.4 (6.0–6.7)	6.4 (6.0–6.7)	2.7 (2.6–3.0)	=	8–10	C			kidneys, intestine, stomach	*Clarias batrachus, C. argus*	China	
M. sharpeyi Molnár et al., 1996	9.6 (9.2–9.8)	8.1 (8.6–7.5)	4.8 (5.3–4.4)	3.6 (3.3–4.0)	2.8 (2.2–2.4)	=	5	C			gill cartilage	*Barbus sharpeyi*	Iran	60
M. sheroidalis Abu-El-Wafa in Negm-Eldim et al., 1999	10.8	9.2		4.1	2.9	=		E			viscera	*Tilapia* sp., *Clarias* sp.	Egypt	

M. shettii Seenappa & Manohar, 1981	8.8 (8.0–9.0)	7.4 (7.0–8.0)	6.0	3.4 (3.0–4.0)	2.3 (2.0–3.0)	=		B			gills	*Cirrhina mrigala*	India	
M. shuleensis nom. nov. for *Myxosoma sinkiangensis* Chen & Ma, 1998	16.1 (16–16.5)	9.0 (9.0–9.2)	6.3 (6.0–6.5)	7.1 (7.0–7.5)	3.0 (3.0–3.2)	=	8–9	B			gills	*Pseudorasbora parva*	China	277
M. sichangensis Ma & Zhao, 1998	10.9 (10.4–12)	8.5 (8–9.6)	6.4	4.8	3.2 (2.8–3.63)	=		A	0.179 × 0.098; 0.204 × 0.11	b	gall-bladder, kidneys	*Schizothorax* sp.	China	
M. sichuanensis n. comb. for *Myxosoma sichuanensis* Ma & Zhao, 1992	10.2 (9.6–10.4)	7.5 (7.2–8.0)	6.0 (5.6–6.1)	4.0 (4.0–4.8)	2.5 (2.4–3.2)	=	5	A	0.12 × 0.09; 0.4- 0.9 × 0.35	c, h	gills	*Schizothorax davidi*	China	
M. sichuangensis Ma & Zhao, 1998	14.0 (13.1–15.0)	10.7 (10–11.4)	7.5 (7.1–8.0)	6.4 (5.6–7.2)	3.9 (3.8–4.0)	≠		A	0.25 × 0.13	c, f	gills, swim-bladder	*Garra pingi pingi*	China	170
M. siddalli Salim & Desser, 2000	10.3 (9.3–11.2)	8.9 (8.2–9.7)	6.3 (5.4–7.1)	5.4 (4.1–6.2)	3.1 (2.9–3.5)	=	5–7	D	0.25	c		*Notropis cornutus*	Canada	
M. sigini n. comb. for *Myxosoma sigini* Chen in Chen & Ma, 1988	10.6 (9.8–11.3)	7.4 (7.2–7.8)	5.3 (4.8–6.0)	4.9 (4.8–5.0)	2.5 (2.4–2.6)	=	6–7	B			gills, body-cavity	*Hypophthalmichthys molitrix*	China	206
M. sikiangensis Chen in Chen & Ma, 1998	12.1 (12.0–12.4)	8.4 (7.9–8.0)	7.2	6.0 (5.7–6.2)	2.6 (2.4–2.7)	=	5–6	B			skin	*Capoeta semifascialata*	China	
M. simplex Akhmerov, 1960	8.5	8		4.3	2.6	=		A			muscles, eyes	*Acanthorhodeus asmussi*	Amur basin	
M. sinensis Chen & Hsieh, 1960	10.0 (9.0–108)	6.9 (6.6–7.2)	5.0 (4.8–5.2)	4.6 (4.2–4.8)	2.3 (2.2–2.4)	≠	6–7	D			spleen, kidneys, stomach	*Cirrhinus molitorella*	China	143
M. sinkiangensis Chen in Chen & Ma, 1998	11.7 (10.8–12)	10.0 (9–10.8)	5.9 (4.8–6.0)	5.7 (4.8–6.0)	3.8 (2.8–4.2)	≠	5–6	C			skin	*Pseudorasbora parva*	China	
M. sinocyclochilusi Ma, 1998	12.7 (11–14.4)	9.9 (8.8–11)	7.1 (7.0–7.3)	4.9 (4.8–5.2)	2.9 (2.8–3.2)	=	4–5	C	0.334 × 0.3006	h	gills	*Cyprinus carpio*	China	
M. smithi Salim & Desser, 2000	10.6 (9.9–11.4)	8.8 (8.3–9.3)	6.2 (5.4–6.7)	4.5 (4.1–5.1)	2.9 (2.2–3.1)	=	5–7	D	0.25	c	kidneys	*Phoxinus eos*	Canada	
M. soldatovi Akhmerov, 1960	8–9.5			4–4.2	2–2.2	=		E	small	a	skin	*Oncorhynchus keta*	Amur basin	
M. solidus Shulman, 1962	11–12	10–10.5	8.4–8.6	6.7–7	3.5–4.2	=		E	0.5	a	gills	*Carassius auratus gibelio*	China	
M. sophorae Jayasri, 1982	14.9 (6.4–26.6)	7.7 (5.9–10.1)				=,≠		A			gills, kidneys	*Puntius sophorae*	India	
M. spalli (Spall, 1974) Landsberg & Lom, 1991	14.4 (14.0–15.0)	8.0 (7.5–8.3)	7.5 (7.1–8.0)	7.1 (6.7–7.5)	3.0 (2.8–3.0)	=	9	A			gills	*Notropis lutrensis*	USA	278
M. sparoides Otto & Jahn, 1943	11.7–12.4	8.8–9.3	8.5	4.4–5.4		=	9–10	A	0.2	a	intestine	*Pomoxis sparoides*	USA	
M. spatulatus Dogel & Bogolepova, 1957	9–12	6–7		5–6		=		B	0.5–5	a	eyes, gills	*Paracottus knevi*	Baykal	
M. sphaeralis Gurley, 1893	9	9						E			gills	*Coregonus fera*	Switzerland	
M. sphaericus (Fujita, 1924) Landsberg & Lom, 1991	8.5–12	9–11	6	4.5–5.5	2.6–3.5	=		E			kidneys	*Carassius auratus gibelio*	Japan	
M. sphaerocapsularis Shulman, 1962	17–18	11–12		7–8	5.6–6.5	≠	14	E	0.7	a	muscles	*Acheilognathus chankaensis*	China	
M. spinacurvatura Maeno et al., 1990	10.5–12.5	9.0–11.0	6.0–7.5	3.5–5.0	2.5–3.5	=		A	1	a	mesentery, brain, spleen	*Mugil cephalus*	Off Japan	72
M. spinibarbus nom. nov. for *Myxosoma pyriformis* Ma, 1998	9.0 (8.8–9.5)	6.6 (6.4–7.2)	6.2 (6.0–6.4)	4.7 (4.6–5.0)	2.3 (2.1–2.5)	=	5	A	0.08 × 0.09	c	gills	*Spinibarbus denticulatus yunnanensis*	China	260
M. spirosulcatus Maeno et al., 1995	8.9 (7.5–10.0)	7.8 (7.5–8.5)	6.7 (6.0–7.5)	4.1 (3.5–5.0)	2.6 (2.0–3.0)	=	4–5	A	0.02–1.0	k	bile-duct	*Seriola quinqueradiata*	Off Japan	
M. spleeni nom. nov. for *Myxosoma liaohoensis* Chen in Chen & Ma, 1998	8.4 (7.8–8.6)	8.3 (7.8–8.4)	6.7 (6.4–7.2)	3.8 (3.6–4.0)	2.7 (2.6–2.8)	=	4–5	D			spleen	*Hypophthalmichthys molitrix*	China	261
M. splendidus (Kashkovski in Keshkovskii, 1974) Landsberg & Lom, 1991	8.4–10.1	7.8–9		5.4–6	3–3.2	≠		E	0.4–1; 0.1–0.2	d	muscles	*Gobio gobio*	Russia	183

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. sprostoni Shulman, 1962	11–13	10–11.7		5.5–7.5	3.5–4	≠		B			gut, serosa	*Silurus europeus, Parasilurus* sp.	Amur basin	201
M. squamae Keysselitz, 1908	10–13.5	7.5–10	5–6	4.5–5.5	3	=		D	0.05–1	c, b, d	skin, under scales			229
M. squamaphilus Molnár, 1997	18.7 (17–19.5)	13.6 (13–14)	11.5 (11–12)	6.8 (6.5–7.0)	4.2 (4–4.5)	=	7	D			scales	*Abramis brama*	Hungary	
M. squamalis (Iversen, 1954) Landsberg & Lom, 1991	9.0 (8.1–9.9)	8.6 (7.7–9.9)	6.7 (5.6–7.7)	4.4 (3.9–5.1)	3.1 (2.6–3.9)	=	4	A			scales	*Oncorhynchus mykiss*	USA	61
M. squamosus Kudo, 1934	8–9	4.5–5.5		3–4	1.5–2	=		B	0.8–2	k	connective tissue below scales	*Hybopsis kentuckiensis*	USA	
M. stepanovi Allamuratov & Iskov, 1970	12.7–14.2	10.2–11.2	6–7.2	4.9–5.7	2.7–3.1	=		C	0.25–0.33	a	gills, skin, inner organs	*Schizothorax intermedius*	Central Asia	
M. stokesi Pinto, 1928	8.5	5.3		3.1	1.7			E	1.0		subcutaneous tissue of snout	*Pimelodella* (?) sp.	Brazil	
M. stomum Ali, 2003	8.5 (7.0–10.0)	6.5 (5.5–7.5)		4.4 (4.0–5.0)	2.4 (2.0–3.0)	=	5–6	A	0.416 × 0.225	b	buccal cavity muscles	*Plectorhynchus gaterinus*	Off Egypt	
M. strelkovi Kostarev & Kulemina, 1971	8–12.2	6–11	4–7	3.3–5.4	2–4.1	=		B	1.3–1.5 × 1.9–2	a, b	gills, liver	*Phoxinus phoxinus, Leuciscus idus*	Russia	
M. subcircularis Fantham et al., 1939	9.1–11.8	8.2–10		3.2–5	1.8–3			A	1.5 × 0.5		ventral muscles of pelvic fins	*Catostomus commersonii*	Canada	62
M. subepithelialis Weiser, 1949	8–12	6–10		6	3	=		A	1–2		subcutaneous tissue	*Gobio gobio*	Chzech Rep.	223
M. subtecalis (Bond, 1938) Landsberg & Lom, 1991	15–18	6.5–8	6	7–8	2	≠	11–12	A	0.05–0.3		fins	*Fundulus heteroclitus*	Off USA	76
M. sujiensis Ma & Zhao, 1998	10.0 (8.8–12)	7.8 (7.2–8.8)	6.5	5.6 (4.8–6.4)	3.2	≠	4–5	A	0.1636 × 0.1227	c	kidneys	*Spinibarbus sinensis*	China	
M. suturalis Shulman, 1962	11–12	7.5		6–7		=		D			heart	*Schizothorax intermedius*	Central Asia	
M. symmetricus Rice & Jahn, 1943	10	9.3		3.1	2.3		12–14	C			gills	*Pomoxis sparoides*	USA	
M. synodonti Fomena et al., 1985	13.7 (12.0–15.0)	6.4 (5.8–6.9)		6.2 (5.6–7.0)	1.9 (1.7–2.5)	=		A		a	stomach	*Synodontis batesii*	Cameroon	
M. tachengensis Chen in Chen & Ma, 1998	18.8 (18–19.4)	11.4 (10.2–12)	9.3 (8.5–10.1)	9.9 (9.6–10.8)	3.7 (3.6–3.8)	=	7–8	B			gall-bladder, front intestine	*Carassius auratus auratus*	China	149
M. tadzhikistanicus Daniyarov, 1975	9–1.2	5–8		5–8.3	2–3	≠		C			kidneys, spleen		Central Asia	213
M. taihuensis Ma, 1993(b)	10.6–12.2	7.6–10.5	5.0–6.0	4.6–6.9	3.0–4.7	=		A	0.15 × 0.102		gills	*Mylopharyngodon piceus*	China	
M. taipingensis nom. nov. for *Myxosoma cheni* Ma, 1998	8.3 (8–8.8)	6.8 (6.6–7.2)	6.5	4.8 (4.8–5.2)	3.0 (2.8–3.2)	=		A	0.283–0.384 × 0.2–0.3	h	gills	*Schizothorax meridionalis*	China	262
M. talievi Dogiel & Bogolepova, 1957	9.3–12	9–11		3.9–5				B	0.5–5	a	eyes	*Batrachocottus nikolskii*	Baikal	
M. tamingensis Chen in Chen & Ma, 1998	12.0 (10.8–13.2)	9.7 (8.6–10.8)	5.3 (5.2–5.4)	4.7 (3.6–6.0)	2.8 (2.4–3.2)	=	5–6	D			urinary bladder	*Aristichthys nobilis*	China	
M. tatuensis Ma & Zhao, 1998	9.7 (9.6–10.4)	8.7 (8–9.6)	6.4	4.1 (4–4.8)	2.7 (2.4–3.2)	=		B	1.625 × 1.2	b	gills, buccal cavity	*Zacco platypus*	China	
M. tauricus Miroshnichenko, 1979	11.5–14.5	9–11		6–8.5	2.7–3.5	≠		D	0.07–0.47 × 0.09–0.5	a, c	gills, fins, muscles	*Barbus tauricus*	Ukraine	237
M. tayehensis Chen in Chen & Ma, 1998	17.6 (16.8–19)	17.6 (16.8–19)	8.5 (8.4–8.6)	9.1 (8.4–9.6)	3.7 (3.6–4.0)	=		B			gall-bladder, intestine	*Ctenopharyngodon idellus*	China	119
M. tchangi Chen in Chen & Ma, 1998	11.9 (11.5–12.4)	7.5 (6.6–8.4)	4.8	6.3 (6.0–7.2)	2.3 (2.2–2.4)	=	6–7	B		b	intestine, gall-bladder	*Mylopharyngodon piceus*	China	
M. tengchongensis Ma, 1998	9.3 (8.8–9.6)	7.3 (6.4–8.0)	6.2	3.46 (3.2–4.0)	2.0 (1.2–2.4)	=		A	0.073–0.114; 0.074 × 0.08	b, c	kidneys, urinary bladder, intest.	*Discogobio yunnanensis*	China	
M. teres Kudo, 1934	9.5–11.5	9–10.5	5–6	6	3	=		A	0.7–1.75	h	muscles	*Notropis whipplii*	USA	
M. thelohanellus Shulman & Vikhrova, 1952	12–14	9–9.5		5.5- 6.5		≠		B	1–1.5	a, q	gills	*Carassius carassius*	Russia	

M. thickthacae Chen in Chen & Ma, 1998	10.8 (9.6–12.0)	9.5 (9.0–10.8)	6.0	4.7 (4.6–4.8)	3.6 (3.4–3.8)	=	6–7	B			kidneys	*Misgurnus anguillicaudatus*	China	
M. thymalli Konovalov in Shulman, 1966	9–11	8–10.5	5.9–7.2	5.2–6.5	2.7–3.6	=		B	0.5	a, b	gall-bladder	*Thymallus arcticus*	Kamchatka	
M. tilapiae Abolarin, 1974	15.0 (12.0–20.0)	9.0 (7.5–11.0)		2.7 (2.0–3.5)	2.2 (2.0–2.5)	=		A	0.2–2		gills, fins	*Tilapia zilli*	Nigeria	110
M. tisae Lom, 1969(b)	9–10	8	up to 6	5.5–6.5	3–3.5	≠	8	B	0.1	c	kidneys	*Barbus barbus*	Hungary	63
M. tongyaensis Chen in Chen & Ma, 1998	11.0 (9.2–11.6)	7.2 (6.2–7.7)	6.0 (5.7–6.3)	5.8 (4.6–6.9)	2.6 (2.3–3.1)	≠	6–7	A			kidneys	*Rhinogobius giurinus*	Off China	
M. tori Ma, 1998	10 (9.6–10.4)	8.3 (7.2–8.8)	6.9 (6.8–7.0)	6.1 (5.6–7.2)	2.9 (2.4–3.2)	≠		B			kidn., liver, gall-blad., uri. bladd.	*Tor brevifilis brevifilis*	China	
M. toyamai Kudo, 1917	15	7–8	5–6	7–8	3–4			A	0.2	c	gills	*Cyprinus carpio*	USA	115
M. transovalis Gurley, 1893	6–7	8				=		E			under scales	*Phoxinus funduloides*	USA	
M. transversalis Fantham et al., 1939	7.7–1.0	9.1–10.5		4.1–5	2.3–3.2			A			muscles of peduncle	*Notropis cornutus*	Canada	
M. triangulum Chen & Ma, 1998	11.3 (10.8–12)	11.1 (10.8–12)	4.2	5.9 (5.4–6.0)	4.8 (3.6–5.4)	=	6–7	A			kidneys	*Mylopharyngodon piceus*	China	
M. trichogasteri (Sarkar, 1985(b)) Landsberg & Lom, 1991	15.5 (14.0–17.0)	9.4 (8.7–9.9)		10.1 (9.0–10.5)	3.3 (3.0–3.8)	=	5–6	A			gall-bladder	*Trichogaster fasciatus*	India	
M. tricostatus Li & Nie, 1973	9.3 (8.4–10.8)	8.5 (7.2–9.0)	6.0–7.2	4.5 (3.6–4.8)	2.9 (2.4–3.0)	=		C			gills, spleen	*Ctenopharyngodon idella*	China	
M. tripathii Kalavati et al., 1981	9.8–10.2	12.0–13.5		5.0–6.0	2.5	=	8	A	0.5–1.0		gut wall, visceral organs	*Clarias sp.*	India	
M. tripterygii (Laird, 1953) Landsberg & Lom, 1991	12.1 (11.7–12.4)	12.2(11.7–12.4)		7.3 (6.8–7.8)	4.5 (4.0–4.6)	=	5–6	E			caudal fin subdermal conn. tissue	*Tripterygion varium*	Off New Zealand	
M. tsangwuensis Chen in Chen & Ma, 1998	11.1 (10.2–12)	9.0 (8.4–9.6)	6.9 (6.6–7.2)	4.8 (4.6–5.0)	2.9 (2.4–3.6)	≠	4–5	B			kidneys, gills	*Aristichthys nobilis*	China	153
M. tuberculus Nie & Li, 1992	13.6–14.2	13.0–14.0	7.0–7.5	6.4–7.2	3.0–4.0	=		C			heart, urinary bladder, ureter	*Carassius auratus auratus*	China	
M. tumides Nie & Yin, 1973	12.8 (12–14.4)	18.5 (16.8–20)	8.4	9.8 (9.6–10.6)	8.5 (8.2–9.0)	≠	7–9	D	1.8–2 × 0.5–1	f	gills, intestine, fins, heart	*Mylopharyngodon piceus*	China	
M. tunghuensis Chen in Chen & Ma, 1998	15.0 (13.2–16.8)	9.7 (9.0–10.8)	8.5 (7.9–9.0)	5.9 (5.6–6.0)	3.7 (3.0–4.2)	≠	6–7	B			urinary bladder, kidneys	*Carassius auratus auratus*	China	
M. tunicatus Akhmerov, 1960	16	6.5		6.5–7	2.6–2.8	=		E			urinary bladder, kidneys	*Pseudobagrus fulvidraco*	Amur basin	
M. turbinoidus Georgevich, 1950	15	7		8.5		=		E		d	gills	coastal fishes of Lake Ochrid (sic.)	Macedonia	
M. twistus Chen in Chen & Ma, 1998	16.7 (16–17.4)	8.9 (8.4–9.6)	5.9 (5.4–6.2)	8.1 (7.4–9.0)	3.0 (2.6–3.4)	=	8–9	B			kidneys	*Pelteobolus fulvidraco*	China	
M. undulatus Lom, 1969(a)	9–10.5	7–8.5	5–6	5.5	2.2	=		A	0.1	b	gills	*Phoxinus phoxinus*	Czech Rep.	
M. uniporus Fujita, 1927	12	6	3	7		=		A	0.12	a	kidneys	*Paralisurus asotus*		230
M. urinarybladderi nom. nov. for *Myxosoma tunghuensis* Chen in Chen & Ma, 1998	11.3 (10.2–12)	9.3 (8.8–9.8)	5.0–5.4	6.0 (5.8–6.4)	3.3 (3.0–3.6)	≠	6–7	D			urinary bladder	*Carassius auratus auratus*	China	263
M. uvuliferis Cone & Anderson, 1977	9 (7–12)	11.5 (10–13)	6.5 (6–7)	4.5 (3–5)	2.5 (2–3)	=	5–7	A				*Lepomis gibbosus*	Canada	64
M. uyeni Ha, 1971	9.9–10.8	8.0–8.5		5.4	2.7	=		C		c	intestine	*Cirrhina molitorella*	Vietnam	
M. valatus Li & Nie, 1973	9.4 (8.4–9.6)	8.2 (7.4–8.4)	6.0–7.0	5.0 (4.8–5.4)	3.1 (3.0–3.4)	=	8–9	B	0.163 × 0.1194	c, h	gills, intestine, kidneys, skin	*Carassius auratus auratus*	China	
M. valdogeli (Dogel, 1932) Landsberg & Lom, 1991	7.5–9.5	6–6.5		4–4.5		=		B	0.1	a	gills	*Barbus brachicephalus*	Central Asia	
M. vanivilasae Seenapa & Manohar, 1980(b)	8–10	7–9	4.6 - 5	3.1 (3–4)	2.3 (2–2.5)	=, ≠		B	0.45 × 0.33–2.18 × 1.95	b, c	below scales, muscles, integ.	*Cirrhina mrigala*	India	114
M. variabilis Jaczó, 1940	10.8 (9.7–12.2)	8.2 (7.5–9.8)	4.9–6.1	4.8	1.9	=		E	0.2–0.5 × 2–5	b, c	gills	*Abramis brama*	Hungary	

Table 1. Continued.

Species	LS	WS	TS	LPC	WPC	PC	NC	IP	Cyst size (mm)	FC	Infected organ	Type-host	Type-locality	Rem
M. varicorhini Dzhalilov & Daniyarov, 1975	11.8–16	10.6–11.8		5.9–7.1	2.5–4.1	≠		D			skin, kidneys, spleen		Central Asia	238
M. varicorhinusis Ma & Zhao, 1993	10.5 (9.6–11.2)	7.6 (7.0–8.0)	5.8 (5.6–6.0)	6.7 (5.6–7.2)	3.2	≠		A	0.16 × 0.14	h	kidneys, ureter	*Varicorhinus angustistomatus*	China	
M. vastus Kudo, 1934	9–10.5	7.5–8	4.5–5.5	4.5–5.5	1.5–2.5	=		A	2.5; 3.8		integument	*Moxostoma aureolum*	USA	
M. varius Akhmerov, 1960	9–11	6–11.5		4.5–5	2–3.5	=		E			kidneys	*Hypophthalmichthys molitrix*	Amur basin	
M. vartanyanae (Donec et al., 1973) Landsberg & Lom, 1991	9.5–12.3	8.5–10	7.3–8	4.5–6	2.5–3.3	≠	4–5	B	0.5–3.5 × 0.5–2.5	a, b	muscles, kidneys, liver, spleen	*Salmo ischan, S. trutta, Oncorhynchus mykiss*	Ukraine	239
M. vedavatiensis Seenappa & Manohar, 1981	13.8 (13.0–15.0)	9.2 (8.0–10.0)	8.0	6.2 (6.0–7.0)	3.4 (3.0–4.0)	≠		D			gills	*Cirrhina mrigala*	India	65
M. venkateshi Seenappa & Manohar, 1981	9.7 (9.0–10.0)	7.1 (7.0–8.0)	5.0	5.2 (5.0–6.0)	2.0	=		D			gills	*Cirrhina mrigala*	India	
M. vescus Akhmerov, 1960	9–10.5	6	4.5	5–6	2.4	=		A	1–1.5		gut, skin	*Hypophthalmichthys molitrix*	Amur basin	214
M. vesiformis Nie & Li, 1973	12.3 (10.8–15.8)	6.4 (6.0–7.2)	5.0	4.9 (4.6–6.0)	2.0 (1.8–2.4)	=		B			gills, kidneys	*Acheilognathus macropterus*	China	159
M. voremkhai (Akhmerov, 1960) Landsberg & Lom, 1991	15–16	8–9	8	7–7.5	3.5	=		E	small		fins	*Pseudorasbora parva*	Amur basin	
M. waleckii Yukhimenko, 1986	8.4–9.4	7.3–8.4	5.7–6.3	4.2–4.8	2.2–3.1	=		B	0.1–0.2	a	gills	*Leuciscus waleckii*	Amur basin	
M. warniakensis Kazubski & El-Tantawy, 1989	10.0 (9.5–10.8)	8.3 (8.0–9.5)	~6	4.3 (4.0–4.8)	2.2 (2.4–3.0)	=		B	0.1–0.2	a	gills	*Lota lota*	Poland	
M. wasjugani Bocharova & Donec, 1974	15.1–17.6	10–15.1	7.1–8.8	5.8–7.7	3.3–5	=		D			muscles	*Carassius auratus*	River Ob	
M. wellerae Li & Desser, 1985	15 (12.5–16.5)	10 (9.5–11.5)	6.5–7	6 (5.5–6.5)	3.5 (3–4)	=	5–6	D			muscle	*Notropis cornutus*	Canada	
M. weishanensis Ma & Chen, 1998	12.2 (10–12.5)	8.2 (7.5–10)	6.0 (5–6.25)	6.1 (5.6–6.25)	2.6 (2.5–3.1)	=	7	A	0.4–0.2	c	gills	*Squaliobarbus curriculus*	China	
M. widisuturalis Ma & Zhao, 1993	9.2 (8.8–9.6)	7.4 (7.2–8.0)	6.4	5.4 (4.8–6.0)	2.9 (2.4–3.2)	=		B	0.12 × 0.095	b	gills	*Zacco platypus*	China	
M. wuchangensis Chen in Chen & Ma, 1998	10.7 (9.6–11.0)	9.1 (8.4–10.2)	6.3 (6.0–6.6)	4.6 (4.6–4.8)	2.6 (2.4–2.8)	=	6–7	B			caudal fins	*Cyprinus carpio*	China	
M. wucheni (Wu & Chen, 1987) Landsberg & Lom, 1991	13.5 (12.9–14.3)	10.1 (9–11.2)	7.4 (6.7–8.1)	5.8 (5.2–7.1)	4.3 (2.4–4.8)	≠		B			kidneys, gills	*Cyprinus carpio*	China	
M. wuhanensis Chen in Chen & Ma, 1998	12.4 (11.4–14.4)	8.9 (8.4–10.8)	7.0 (6.6–7.2)	6.5 (4.8–7.2)	3.6 (3.4–3.8)	≠	5–6	B			kidneys, gall-bladder	*Carassius auratus auratus*	China	145
M. wuhuensis Wu & Chen, 1987	9.5 (9.0–9.8)	6.9 (6.7–7.1)	4.4 (4.3–4.8)	4.3 (3.8–4.3)	2.0 (1.9–2.1)	=		C			intestine	*Silurus asotus*	China	
M. wulii (Wu & Li, 1986) Landsberg & Lom, 1991	17.6 (15.6–19.2)	10.5 (9.6–10.8)	8.1 (7.2–8.6)	9.5 (8.4–10.2)	4.0 (3.6–4.2)	=	9–11	B	30 × 20	e	gills, spleen, body-cavity	*Carassius auratus auratus*	China	204
M. wushingensis Chen in Chen & Ma, 1998	11.0 (10.8–12)	8.7 (8.2–9.6)	6.5 (6.2–6.6)	6.8 (6.0–8.2)	3.2 (2.6–3.6)	≠	5–7	B			kidneys, intestine	*Carassius auratus auratus*	China	
M. xenocyprisis Li & Wu, 1983	12.4 (11.3–13.3)	7.8 (7.3–8.0)	6.1 (6.0–6.7)	4.9 (4.0–5.3)	2.4 (2.0–2.7)	=	6–8	C	1.5–3.0		gills	*Xenocypris davidi*	China	
M. xiaoi Salim & Desser, 2000	11.0 (9.8–12.2)	8.5 (8.1–9.2)	6.0 (5.2–6.9)	4.8 (4.2–5.4)	2.8 (2.1–3.1)	=	5–7	C		b, e	cartilage of gill arch	*Notropis cornutus*	Canada	67
M. xinanensis Ma & Chen, 1998	10.5 (9.6–11.8)	9.2 (8.8–9.3)	5.0–5.6	5.2 (4.8–5.6)	3.2	=	5–6	A	0.2338 × 0.2004	c	gill, kidneys	*Schizothorax meridionalis*	China	168
M. xiningensis Liu, Wang & Yang, 1982	10.1 (7.1–11.4)	8.4 (7.6–10.3)	6.9 (5.6–7.6)	4.6 (3.8–5.4)	2.8 (2.2–3.3)	≠		B	1.141 × 1.034	c, h	skin, fins		China	164
M. yaanensis n. comb. for *Myxosoma yaanensis* Ma & Zhao, 1992	11.8 (10.4–12.8)	8.0 (7.2–8.8)	4.8	4.8 (4.7–5.2)	2.8 (2.4–3.0)	=		A	0.11826 × 0.06544	b	kidneys	*Schizothorax davidi*	China	

M. yibinensis Zhao & Ma, 1994	9.0 (8.5–9.8)	10.9 (10–12)	6.8 (6.8–6.9)	4.8 (4.6–5.0)	3.5 (3.0–4.2)	=		A	4.2–7.9 × 2.3–4.6	c, h	muscle	*Cyprinus carpio*	China	
M. yini Shulman, 1962	7–8	3–3.5		2.8–3	1.5	=		E			kidneys, spleen	*Amur thunderfish*	China	288
M. yogendrai (Tripathi, 1952) Landsberg & Lom, 1991	9–9.5	7.2	5.0–5.5			=		B			under scales	*Cirrhina mrigala*	India	66
M. yunensis nom. nov. for *Myxosoma barbodesi* Ma, 1998	8.8 (8.0–9.6)	7.2	5.6	4.6 (4.0–5.2)	2.9 (2.8–3.2)	=		A	0.195–0.227 × 0.162–0.195	c, h	gills	*Barbodes daruphani luosuonensis*	China	264
M. zacconis Wu & Li, 1986	10.6 (10.4–11.4)	7.1 (6.2–8.0)	5.3 (5.2–5.6)	5.9 (5.6–6.6)	2.5 (2.4–2.8)	≠		C			urinary bladder	*Zacco platypus*	China	
M. zhaoi nom. nov. for *Myxosoma mapienensis* Ma & Zhao, 1998	12.2 (12–12.8)	5.6	5.2 (4.8–5.6)	7.4 (7.2–8.0)		=		A	0.2945 or 0.5726 × 0.4661	c, h	gills	*Acrossocheilus yunnanensis*	China	265
M. zhenzensis nom. nov. for *Myxosoma taihuensis* Ma, 1993	7.2 (6.8–7.8)	8.1 (7.6–8.4)	5.0 (4.6–5.3)	3.7 (3.0–4.6)	1.9 (1.5–2.3)	=	6	B	2–3	c	muscles	*Hypophthalmichthys molitrix*	China	266
M. zillii Sakiti et al., 1991	9.8 (8–11)	7.5 (6–8)		5.1 (4–6)	2.5 (2–3)	=		D		a, b, d	gills	*Tilapia zillii*	Benin	

Abbreviations: LS, length of the spore; WS, width of the spore; TS, thickness of the spore; LPC, length of the polar capsules; WPC, width of the polar capsules; PC, relative size of the polar capsules (equal, different, or equal and different); NC, number of coils of the polar filament; IP, intercapsular process (A, non-existent; B, small; C, medium-sized; D, large; E, not reported in the species description or not available in the literature consulted); FC, form of the cysts (a, spherical; b, oval; c, round; d, elongate; e, irregular; f, oblong; g, subcircular; h, elliptical; i, fusiform; j, subspherical; k, variable; l, circular; m, cylindrical; n, pyriform); Rem, remarks. All measurements are in micrometres, except for the cyst size (mm).

'Remarks' in Table 1

The following remarks relate to the last column of Table 1. The data on spore and cyst dimensions are given in micrometres and as in the original publication, unless otherwise indicated.

1. The smaller polar capsules are 4.2 × 2.5 and the polar filament forms 3 turns.
2. Also in *Sarotherodon galilaeus* and *Oreochromis niloticus vulcanicus*.
3. The length of the smaller polar capsule is 8.3 (8.6–10.0).
4. The cysts were found only in the connective tissue underlying the integument of the body surface or the lining of the branchial chamber.
5. The cysts are wedged into the cartilaginous branchial arch, such that they are cleaved into two parts. The inner part adheres to the inner surface of the branchial arch, while the outer part is located on its outer surface between the cartilaginous gill-rays that form the axis of two neighbouring gill-filaments. The inner and outer part of the cysts are connected by an isthmus. The dimensions indicated refer to the size of each part of the cyst. The smaller polar capsules are 2.5–4.4 × 1.8–3.3. Sometimes there are 7 coils in the polar filament within the larger polar capsules; in the smaller ones there are 4 coils (sometimes 3).
6. The smaller polar capsules are 2.5 (2.0–4.0) × 1.75 (1.0–2.0).
7. The cysts may be horse-shaped (440 × 218). The smaller polar capsules are 11.3 (10.1–12.2) × 2.2 (2.0–2.4), and the polar filament forms 15–18 coils. Within the same plasmodium different spores were found: 18.3 (16.9–19.3) LS, 6.0 (5.6–6.9) WS, 12.6 (10.4–13.7) LPC, 2.8 (2.2–3.1) WPC; the polar filament forms 18–20 coils.
8. In the serosa and connective tissue of the bulbus arteriosus, serosa of the atrium and gill aortae.
9. Also in *Cirrhina mrigala*. One of the specimens of *C. mrigala* was found infected in almost all the organs. The smaller polar capsules are 4.1 × 3.1.
10. The parasite localises in the cartilage of the head, particularly the gill-arches, occasionally in the base of the largest fin-rays.
11. Also in *Labeo rohita* and *Cirrhina mrigala*.
12. Also in the buccal cavity, jaw bone and crop tissue.
13. Also in the gall-bladder, ovary and fat-bodies.
14. Also in the perioral tissue, pelvic and pectoral fins, and flank of the body near the lateral line.
15. Also in the fins, heart and under the serous membranes surrounding the intestine. The dimensions indicated are of elongate-ellipsoidal spores. A small portion of the spores are oval and measure 10.5 (10.3–10.9) in length and 8.0 (7.2–8.5) in width.
16. Spores 13.2 long × 6.4 wide are "fairly common" (sic).
17. Many spores are 17–18 long and 6–6.5 wide. The smaller polar capsules are 6.6–8.9 in length.
18. The smaller polar capsules are 2.7–3.6 × 1.8.
19. The smaller polar capsules are 3.7 (3.1–4.0) × 2.9 (2.5–3.2), and the polar filament forms 3–4 coils.
20. The smaller polar capsules are 6–6.5 × 3–3.5, and the polar filament forms 4–5 coils.

21. Also in *Gadopsis bispinosus*. Also in the muscles, retrobulbar connective tissue, hepatic hilus, intestinal serosa, and adjacent mesenteries, meninx and loose connective tissues adjacent the cranial cartilages.
22. The polar capsules are spherical and 3.8 (3–5) in diameter.
23. The smaller polar capsules are 2.4 (2.2–3.0) × 1.5 (1.3–2.0).
24. The smaller polar capsules are 4.2 (1.7–6.6) × 2.2 (1.7–4.1).
25. The cyst dimensions and form refer to cysts in the connective tissue covering the gill arches. In the extremity of the gill lamellae the cysts are elongate and *c*.1.5 mm long.
26. Also in the suprabranchial respiratory organ, heart and urinary bladder. The dimensions indicated refer to the "long form" of spores. The "short form" of spores has 6–8 coils of the polar filament and the dimensions LS 8.5 (7.4–9.2), WS 6.6 (6.0–8.0), TS 4.9 (4.4–5.3), LPC 3.6 (3.1–4.1) and WPC 2.3 (2.0–3.0).
27. Also in *Tilapia variabilis*, *T. nilotica* and *Tilapia* sp. The spores were described as highly variable in shape (ovoid, ellipsoidal, pyriform, round). The measurements indicated refer to type 1 spores. The type 2 spores are LS 11.6 (9.0–15.0), WS 8.0 (6.5–10.5), LPC 4.7 (3.0–7.0) and WPC 2.1 (1.5–3.0). The type 3 spores are LS 12.5 (10.0–14.5), WS 7.2 (6.3–8.0), LPC 7.5 (5.5–9.5) and WPC 2.3 (1.8–3.0).
28. The smaller polar capsules are 3.3 (2.5–4.0) × 1.4 (1.0–2.5).
29. The smaller polar capsules are 4.8 (3.9–5.5) in length.
30. The smaller polar capsules are 5.2 (5.0–6.4) in length.
31. The longer polar capsule is pyriform and the smaller one is more or less spherical. The smaller polar capsule is 1.8 × 1.0.
32. Also in *Barbus sharpeyi* and *B. grypus*. The smaller polar capsule is 7.0 (6.6–7.2) long, and the polar filament forms 6 coils.
33. Also in *Oreochromis aureus* × *O. niloticus* and *O. niloticus vulcanicus*. The values indicated refer to the hybrid host. Values for *S. galilaeus*: LS 12.9 (12.1–14.0), WS 9.4 (8.0–9.9), TS 6.9 (6.3–7.4), LPC 7.8 (7.1–8.6), WPC 3.6 (3.2–4.0).
34. The dimensions indicated correspond to globular plasmodia. Ellipsoidal plasmodia are 400–600 × 250–350.
35. The smaller polar capsules are 2.0 (1.4–2.1) × 1.2 (0.7–1.4).
36. Also in the connective tissue of muscles in the head. The polar capsules are sometimes slightly different in size. The polar filament can (rarely) have 6–9 coils.
37. The smaller polar capsules are 6.0 (4.9–8.1) × 2.0 (1.6–2.4).
38. The smaller polar capsules are 5.4 (4.2–7.0) × 3.4 (3.1–3.5) and the polar filament forms 5–6 coils.
39. The values indicated are for spores with equal-sized polar capsules. The spores with unequal polar capsules have 7–9 coils in the polar filament. The larger polar capsules are 11.6 (8.0–13.0) × 1.3 (1.2–1.8) and the smaller ones are 9.9 (8.0–13.0) × 1.2 (1.0–1.8).
40. The smaller polar capsules are 3.1 × 2.1.
41. The spores are spherical and are 4.8–5.2 in diameter.
42. The smaller polar capsules are 4.0 (3.5–4.2) × 1.3 (1.4–1.8) and the polar filament forms 3–4 coils.
43. Also in *Etheostomum nigrum*. Some of the plasmodia were partly exposed on the dorsal surface of tectum, some were within the cortex and some were in tracts beneath the cortex, while some of the larger plasmodia protruded from the tracts into the optic ventricles.
44. The same authors described *Myxosoma notropis* from the host *Notropis cornutus*. According to Landsberg & Lom (1991), it is likely both forms correspond to the same species. The spores of this species were 13.3–16.6 long and 6.4–11 wide. The polar capsules were equal or subequal, being 4–6.4 × 1.8–3.2.
45. Within the same plasmodia different spores were found: LS 7.4 (6.3–8.1), WS 5.8 (5.1–6.2), LPC 3.9 (3.2–4.2), WPC 2.2 (2.0–3.0) (the larger), 3.4 (2.5–4.0) LPC and 2.2 WPC (1.9–2.8) (the smaller); both different polar capsules have 4–5 coils in the polar filament.
46. The smaller polar capsules are 6.9–8.5 × 1.2–2.0.
47. The smaller polar capsules open laterally, and are 2.6 (2.1–3.6) × 2.5 (1.4–2.9).
48. Some spores are 12 long and 11 wide, and have polar capsules 4–6 long.
49. Exceptionally the polar capsules are up to 7.3 in length.
50. The smaller polar capsules are 6.3 (5.7–7.4) × 4.8 (4.2–5.5) and the polar filament forms 7–11 coils.
51. Also in the connective tissue of the pharynx and integument. The smaller polar capsules are 6.6 (5.5–7.0) × 1.9 (1.5–2.0).
52. The smaller polar capsules are 3.1 (2.9–5.0) × 1.6 (1.1–2.1).
53. Many spores are 5.5–6.4 wide. The polar capsules are sometimes unequal.
54. The smaller polar capsules are 3.5 (2.9–4.3) × 2.5 (2.1–3.0).
55. The cyst was found in the skin covering the suboperculum, another between the maxilla and the eye, and a third immediately behind the eye.
56. The smaller polar capsules are 1.5 × 1.0.
57. Also in *Sarotherodon galilaeus* and *Oreochromis niloticus vulcanicus*.
58. Also in *Percina caproides*. The length of the polar capsules refer to the shorter polar capsules. The spherical cysts are small and the irregular ones are larger.
59. The smaller polar capsules are 7.9 (7.6–8.1) × 5.2 (4.6–5.4).
60. The spore length and width refer to short ellipsoidal spores. The longer ellipsoidal spores are 9.9 (9.5–10.2) in length.
61. Also in *Oncorhynchus keta* and *O. kisutch*.
62. In the ventral muscles of the pelvic fin and right side of the abdomen.
63. The smaller polar capsules are 4.5–5.5 × 3–3.5 and the polar filament forms 6–7 coils. In the larger polar capsules the polar filament sometimes forms 7 coils.
64. Within the fibrous connective tissue capsule surrounding metacercariae of the trematode *Uvulifer ambloplitis*. Li & Desser (1985) described *Myxobolus gibbosus* from *Lepomis gibbosus*, a homonym of *M. gibbosus* Herrick, 1941 from the same host. Realising the duplication of names, Desser (1993) established *M. lii* to replace *M. gibbosus* Li & Desser, 1985. However, Landsberg & Lom (1991) had previously synonymised *M. gibbosus* Li & Desser, 1985 with *M. uvuliferus* Cone & Anderson, 1977. Thus, *M. lii* Desser, 1993 falls into synonymy with *M. uvuliferus* (quoted from Cone & Raesly, 1995).
65. The smaller polar capsules are 3.9 (3.0–5.0) × 2.6 (2.0–3.0).
66. The polar capsules are spherical and are 2.8–3.6 in diameter.

67. Also in *Notemigonus crysoleucas*.
68. The smaller polar capsules are 5.7 (4.9–6.3) × 3.3 (3.0–4.0).
69. Also in the gall-bladder; less frequently in the gills, gonads, intestine, muscle, swim-bladder, heart and peritoneum. The polar capsules are frequently different in size.
70. Also in *Leuciscus cephalus cabeda* and *Rutilus rutilus*.
71. The smaller polar capsules are 8–11.5 × 2–3.
72. Also in the liver and pancreas.
73. The authors noted that the polar capsules are somewhat unequal in size.
74. The polar capsules are slightly unequal in size in most cases.
75. Fujita (1929) described *Lentospora anguilli* from *Anguilla japonica*. Later, Landsberg & Lom (1991) synonymised the two genera, creating the secondary homonym *Myxobolus anguilli* (pre-occupied by *M. anguilli* Wu, 1977). The polar capsules are 5 in diameter. The cysts are knob-shaped.
76. Also in the connective tissue of most of the viscera, the fatty tissue of the dorsal surface of the brain, kidneys and other organs. The muscle tissue is apparently the only type of tissue free from invasion. One polar capsule is usually about 0.7-1 μm larger than the other.
77. Also in the gills, cartilage of gill-arch, glomeruli of the kidney and tissues of the urinary and gall-bladder.
78. The cysts were found immediately anterior to the bases of the branchiostegal rays and in the subcutaneous connective tissue underlying the ventral surface epithelium of the host. The smaller polar capsules are 4.3 (3.3–4.9) × 2.4 (1.6–2.8).
79. The smaller cysts are 150 × 125 × 35.
80. The smaller polar capsules are 2.1 (2–3) × 1.5 (1–2).
81. The dimensions indicated refer to spores with equal-sized polar capsules. For spores with differently sized polar capsules, the larger is 4.9 (4.5–5.0) × 2.5 (2–3) and the smaller is 3.9 (3–4) × 2.4 (2–3).
82. Also in the muscularis of the intestine, from the small intestine down to the rectum.
83. Only exceptionally is there a small triangular process.
84. Solitary spores were found in the melano-macrophage centres of the kidney. Other plasmodia had a globule to ellipsoidal shape and measured 500–700 × 700–1000.
85. The smaller polar capsules are 2.6 (2.5–3.3) × 1.8 (1.7–2.5).
86. The smaller spores were found consistently within the same plasmodia. Their dimensions are LS 8.3 (7.0–9.5), WS 4.0 (3.5–5.0), LPC 5.8 (5.0–7.5) and WPC 1.5 (1.0–2.0).
87. This name is pre-occupied by *M. mugilis* Haldar et al., 1996. The smaller polar capsules are 2.4 × 1.2, and the polar filament forms 5–6 coils.
88. The smaller polar capsules are 4.5 × 1.8.
89. The cysts are sausage- or rod-shaped.
90. The cysts appear as cystic masses.
91. The cysts are spindle-shaped.
92. The cysts are branch-like.
93. The smaller polar capsules are 5.3 (4.1–6.5) × 3.5 (3.0–4.0) and the polar filament forms 6–7 coils.
94. The smaller polar capsules are 4.0 × 2.2 and the polar filament forms 3 coils.
95. Three types of cysts were found: ovoid, elongate (230–750 × 109–295) in the gill adducter muscle parallel to the axis of the gill filament; large cysts visible to the naked eye, again in the gill adducter muscle and separating gill-filaments considerably. The anterior extremity was rounded and very broad (180–850), the base narrowed (30–130) and the total length varied from 290 to 950; rounded cysts (diameter 1.5 mm) in the integument visible to the naked eye (these were observed once in a 3 cm long fry).
96. Also in the superficial mandibular muscles, muscles of the operculum and pharyngeal wall, and connective tissue covering the gill-arches.
97. Also in *Barbus guirali* and *B. martorelli*.
98. Also in the gill adductor muscle, muscles of the operculum, the bile duct and the gall-bladder wall. One polar capsule is placed more anteriorly than the other.
99. The smaller polar capsules are 4.9 (4.3–5.0) × 2.9 (2.5–3.6).
100. Also in *Hemichromis fasciatus* and *Tilapia* hybride (sic). The smaller polar capsules are 4.3 (3–5.5) × 3.1 (2–3.5) and the polar filament forms 5–6 coils.
101. In the fat tissue at the extremity of the gill-arches and in the adductor muscles of the primary gill filaments. In the muscles, the cysts are oval or fusiform and measure 50 × 85–160; in the fat tissue the cysts are spherical, oval, sometimes irregular and measure 80 × 200–150×800.
102. The smaller polar capsules are 1–2 in length, rudimentary and apparently non-functional.
103. About 25% of the spores have unequal polar capsules.
104. The smaller polar capsules are 7.2–8.8 × 2.8–3.2, and the polar filament forms 5–6 coils.
105. Also in the pericardium. Also in *Barbus camptacanthus*, *B. guirali* and *B. martorelli*. The smaller polar capsules are 3.9 (2.2–5.0) × 2.0 (1.5–2.5) and the polar filament forms 3 coils.
106. The smaller polar capsules are 4.0 (3.0–4.5) × 2.3 (1.8–2.5) and the polar filament forms 3–5 coils.
107. The polar capsules are pyriform, with long necks, and converge into a common terminal duct into which both polar capsules open.
108. The cysts had two forms and occupied two different sites in the gill-filaments. The first plasmodial form was tear-shaped and at the distal tip of the infected filament; it measured 960 (750–1180) in length and 330 (250–380) in width. The second form of plasmodia was rod-like, lying to one side of the gill-filament and measured 1410 (400–2400) × 350 (200–500).
109. The smaller polar capsules are 6.6 (5.8–7.5) × 3.6 (3.3–4.1) and the polar filament forms 7–8 coils.
110. Also in *Sarotherodon galilaeus* and *Oreochromis niloticus*.
111. *M. catostomi* Kudo, 1923, originally described as *Myxosoma* from *C. commersonii* from the United States, is considered by Landsberg & Lom (1991) identical to *M. catostomi* Fantham, Porter & Richardson, 1939. The figures indicated were reported by these authors. Grinham & Cone (1990) renamed the species as *Myxobolus musculosus*.
112. Also in melano-macrophage centres of the kidney and spleen.
113. The smaller polar capsules are 4.5 (4.4–5) × 3.2 (2.2–4.4) and the polar filament forms 6–7 coils.

114. In the spores with unequal polar capsules, they were 3.5 (3–4) × 2.5 (2–3) or 2.9 (2.5–3.5) × 2.5 (2–3).
115. There is only one polar capsule.
116. The smaller polar capsules are 2.6–4.3 × 1.4–1.7.
117. Also in *Pimelodus claria*. In the intestine of *P. piraya* and cloaca of *P. claria*.
118. Also in *Hemiculer leucisculus*.
119. Also in *Channa argus*.
120. Also in *Cyprinus carpio*.
121. Also in *Carassius auratus auratus*.
122. Also in *Carassius auratus auratus*.
123. Also in *Carassius auratus*.
124. Also in the kidney of *Cyprinus carpio* and *Carassius auratus auratus*.
125. Also in *Cirrhinus molitorella*.
126. Also in *Pelteobagrus fulvidraco*.
127. Also in *Cyprinus carpio*.
128. Also in the gills of *Ctenopharyngodon idellus* and intestine of *Carassius auratus auratus*.
129. Also in the kidney, gall-bladder, skin mucus and gills of *Carassius auratus auratus*.
130. Also in the gills and kidney of *Abbottina rivularis*, in the kidney of *Acrossocheilus yunnanensis* and in the intestine of *Saurogobio dumerili*.
131. Also in the skin, spleen and kidney of *Rhodeus sinensis*, in almost all the organs of *Ctenopharyngodon idellus* and in the gills of *Opsariichthys bidens*, *Variorhinus angustistomatus*, *Pseudolaubuca sinensis*, *Schizothorax davidi* and *Cyprinus carpio*.
132. The smaller polar capsules are 3.9 (3.6–4.2) × 2.1 (1.8–2.4). Also in the kidney of *Hypophthalmichthys molitrix, Sarcocheilichthys sinensis sinensis, Acheilognathus chankaensis, A. macropterus, A. hypselonotus* and *Paracanthobrama guichenoti*, and in almost all the organs of *Rhodeus sinensis*.
133. The smaller polar capsules are 2.8 (2.2–3.4) × 1.3 (0.9–1.4). Also in the intestine and gills of *Cyprinus carpio* and in the gills of *Carassius auratus auratus*.
134. The smaller polar capsules are 5.9 (4.8–6.0) × 2.6 (2.2–3.0). Also in the heart, urinary bladder and skin of *Cyprinus carpio* and almost all the organs of *Megalobrama terminalis*.
135. The smaller polar capsules are 2.6 (2.4–3.0) × 1.2 (1.0–1.4). Also in *Cyprinus carpio* and *Carassius auratus auratus*.
136. The smaller polar capsules are 5.8 (5.2–6.0) × 3.4 (3.1–3.6). Also found in the kidney, nasal cavity and gall-bladder.
137. The smaller polar capsules are 3.0 (2.4–3.6) × 3.0 (1.4–2.6). Also in the kidney and spleen of *Ctenopharyngodon idellus* and *Sarcocheilichthys parvus*.
138. The smaller polar capsules are 3.6 (3.0–4.8) × 1.8 (1.6–2.2). Also in *Hypophthalmichthys molitrix*.
139. The smaller polar capsules are 3.7 (3.4–4.2) × 2.5 (2.4–3.2) and the polar filament forms 4–5 coils. Also in *Hypophthalmichthys molitrix* and *Cyprinus carpio*.
140. Also in *Carassius auratus auratus*.
141. Also in the urinary bladder, gall-bladder and intestine. The smaller polar capsules are 4.5 (3.6–5.4) × 2.0 (1.8–2.4) and the polar filament forms 3–4 coils.
142. Also in *Carassius auratus auratus*. The smaller polar capsules are 4.9 (4.6–5.4) × 2.9 (2.6–3.1).
143. Also in *Channa maculata*. The smaller polar capsules are 3.6 (3.4–4.2) × 1.9 (1.6–2.2).
144. Also in *Acheilognathus macropterus* and *Rhodeus ocellatus*. The smaller polar capsules are 3.2 (3.0–3.6) × 2.0 (1.8–3.6).
145. Also in the intestine, liver and heart. The smaller polar capsules are 5.5 (4.2–6.0) × 2.7 (2.4–3.2) and the polar filament forms 4–5 coils.
146. Also in the gills, urinary bladder, spleen and intestine of *Aristichthys nobilis*, and in the spleen of *Carassius auratus auratus*. The smaller polar capsules are 4.8 (3.8–5.4) × 2.8 (2.4–3.4).
147. Also in the spleen of *Ctenopharyngodon idellus*. The smaller polar capsules are 3.3 (3.0–3.6) × 3.1 (2.8–3.4) and the polar filament forms 3–4 coils.
148. Also in *Hypophthalmichthys molitrix*.
149. Also in *Anguilla japonica*.
150. Also in the urinary bladder. Also in *Cyprinus carpio haematopterus*.
151. Also in the urinary bladder of *Schizothorax davidi* and in the spleen of *Aristichthys nobilis*. The smaller polar capsules are 5.0 (4.6–6.4) × 3.3 (3.1–4.0).
152. Also in the gills of *Hypophthalmichthys molitrix*. The smaller polar capsules are 4.3 (3.0–5.4) × 2.2 (1.8–3.0), and the polar filament forms 4–5 coils.
153. Also in the gills of *Aristichthys nobili*. The smaller polar capsules are 3.4 (3.0–3.6) × 2.5 (2.4–2.6), and the polar filament forms 3–4 coils.
154. Also in the swim-bladder, intestine, kidney, skin and urinary bladder.
155. Also in *Zaco platypus*, in the gills and kidney of *Abbottina rivularis*, *Rhodeus ocellaus* and *Pseudorasbora parva*, and in the gills and nasal cavity of *Distoechodon tumirostris*, *Xenocypris microlepis* and *Toxabramis swinhonis*.
156. Also in *Abbottina kiangtingensis*.
157. Also in the liver, spleen, kidney and urinary bladder of *Schizothorax davidi*. The smaller polar capsules are 3.3 (3.2–3.6) × 1.3 (1.2–1.3).
158. Also in *Aristichthys nobilis*. The smaller polar capsules are 3.7 (3.2–4.5) × 2.3 (2.2–2.5), and the polar filament forms 5 coils.
159. Also in *Acheilognathus chankaensis*.
160. Also in the gills and kidney of *Lateolabrax japonica* and in almost all the organs of *Carassius auratus auratus*. The smaller polar capsules are 2.8 (2.4–3.0) × 1.6 (1.2–1.8).
161. Also in the gills, kidney, gall-bladder, muscles, urinary bladder and liver of *Carassius auratus auratus*, in the gills and kidney of *Silurus solsatori*, and in the gills of *S. asotus* and *Spinibarbus sinensis*.
162. Also in *Gymnocypris przewalskii przewalskii*.
163. In *Gymnocypris przewalskii przewalskii*.
164. In *Gymnocypris przewalskii przewalskii*.
165. Also in *Cyprinus carpio*.
166. Also in *Hypophthalmichtys molitrix*.
167. In *Sarcocheilichthys nigriponnis davidi*.
168. Also in *Triplophysa strauchii*.
169. Name pre-occupied by *M. ovatus* Kudo, 1934. Also in *Mylopharyngodon piceus*.

170. Also in the muscles of the abdominal cavity wall, oral cavity and ureter. The smaller polar capsules are 5.45 (4.8–5.8) × 3.0 (2.4–3.2).
171. Also in the urinary bladder, ureter and ovary. The smaller polar capsules are 4.0 (3.8–4.3) × 2.2 (1.2–2.4).
172. Also in the urinary bladder of *Carassius auratus auratus*.
173. Also in *Cyprinus carpio haematopterus*.
174. Some spores measure 9 in both length and breath. The polar capsules are sometimes very slightly asymmetrical. The figure provided refers to the large polar capsule.
175. The smaller polar capsules are 5.4–6.8 × 2.7–3.
176. The smaller polar capsules are 6–6.5 × 3.2–3.5.
177. The smaller polar capsules are 2.5–4 × 1.3–1.5.
178. Also in *Nemacheilus* sp.
179. The smaller polar capsules are 3.7 × 2.5. Also in *Tinca tinca* and *Chondrostoma nasus*.
180. Also in *Leuciscus cephalus*.
181. Also in other cyprinids. The smaller polar capsules are 3.9–5 × 2.7–3.
182. Also in *Hypophthalmichthys molitrix*.
183. The smaller polar capsules are 2.4 × 0.2–0.9.
184. The smaller polar capsules are 4.6 (4.1–4.8) × 2.8 (2.5–3.1) and the polar filament forms 4–5 coils.
185. The smaller polar capsules are 1.5 in width.
186. *Myxobolus okobojiensis* Otto & Jahn, 1943 was described from *Pomoxis sparioides* and *Myxosoma okobojiensis* Rice & John, 1943 from *Ictiobus bubalis*. When the two genera were synonymised a homonym was created. Grinham & Cone (1990) established a new species, *Myxobolus filamentus* Grinham & Cone, 1990 for *Myxosoma okobojiensis*. Almost at the same time, Landsberg & Lom (1991) erected *Myxobolus jahnricei* for the same taxon. *M. janhricei* Landsberg & Lom, 1991 thus falls in synonymy with *M. filamentus* Grinham & Cone, 1990 (quoted from Cone & Raesly, 1995).
187. The transfer of *Myxosoma rotundum* Meglitsch, 1937 to *Myxobolus* resulted in the combination *Myxobolus rotundus* (Meglitsch, 1937), but this is a secondary homonym of *M. rotundus* Nemeczek, 1911. Grinham & Cone (1990) erected the new name *M. meglitschi* to avoid the homonymy, as did Landsberg & Lom (1991). The correct name for this species is, therefore, *Myxobolus meglitschi* Grinham & Cone, 1990 (quoted from Cone & Raesly, 1995).
188. The polar capsules can also be 6.5–7 × 3.8–4.2 and 5.3–5.6 × 3–3.5.
189. The smaller polar capsules are 5.5–7.2 × 3–3.5.
190. Also in *Alburnoides bipunctatus eichwaldi* and *Varicorhinus heratensis steindachneri*. The smaller polar capsules are 3–5 × 3–5.
191. The smaller polar capsules are 4.5–6 long.
192. The smaller polar capsules are 3.5–4 × 2–2.5.
193. The smaller polar capsules are 3 × 2–2.5.
194. The smaller polar capsules are 3.7–4 × 2.6.
195. The smaller polar capsules are 5.7–6 × 3.6–4.1.
196. Also in *Oncorhynchus nerka*.
197. The smaller polar capsules are 6.8–8.7 × 4.4–4.6.
198. The smaller polar capsules are 3–4 × 2.5–3.
199. Also in *Paracheilognatus imberbis*. The smaller polar capsules are 4.2 long.
200. The smaller polar capsules are 3 × 1.2.
201. Also in *Parasilurus asotus*.
202. Also in the gills of *Hypophthalmichthys molitrix* and in the skin of *Cirrhinus molitorella*.
203. Also in the gills and kidney of *Aristichthys nobilis*, *Sarcocheilichthys nigripinnis nigripinnis*, *Acrossocheilus hemispinus hemispinus*, *Rhodeus sinensis*, *Carassius auratus auratus* and *Ctenopharyngodon idellus*, in the kidney and urinary bladder of *Garra pingi pingi*, and in the kidney of *Pseudorasborsa parva*.
204. Also in the gills of *Hypophthalmichthys molitrix*, *Leiocassis braschnikowi* and *Opsariichthys bidens*.
205. Also in the gills of *Acrossocheilus parallens* and the kidney of *Leiocassis crassilalbris* and *Channa maculata*.
206. In almost all the organs. Also in *Aristichthys nobilis*.
207. Also in *Cyprinus carpio haematopterus*. The smaller polar capsules are 3.2–4.2 × 2.1–2.6.
208. Also in seven other cyprinids.
209. Also in other cyprinids.
210. The figures for the polar capsules refer to the larger ones (no figures are indicated for the smaller). Also in 'many goby fishes'.
211. Also in *Rutilus rutilus heckeli* and *Scardinius erythrophthalmus*
212. Also in *Leuciscus cephalus orientalis*
213. The host is *Varicorhinus heratensis steindacheri*. The smaller polar capsules are 1.2–1.3 × 1.2–1.8.
214. Also in *Gobio gobio*.
215. Also below the dorsal fin. The smaller polar capsules are 4.8 × 2.4.
216. Name pre-occupied by *M. sinensis* Chen & Hsieh, 1960. Also found in the gills, kidney and fins of *Carassius auratus auratus*, the gills of *Xenocypris yunnanensis* and the kidney of *Anguilla japonica* and *Spinibarbus sinensis*.
217. Name pre-occupied by *M. omeiensis* Ma & Zhao, 1993. Also found in the gills of *Schizothorax prenanti* and *S. meridionalis*.
218. Within the same plasmodia different spores were found: LS 11.5 (10.6–12.5), WS 5.7 (4.8–6.3), LPC 6.1 (5.8–6.5), WPC 2.1 (2.0–2.5) (the larger polar capsules, having 5–6 coils in the polar filament), or LPC 5.2 (4.5–5.9) and WPC 2.0 (1.9–2.1), with 4–5 coils in the polar filament.
219. In the Danube and Dnieper River basins. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
220. In the walls of the intestine, mesentery, liver, kidney, spleen and muscles of *Cyprinus carpio*, *C. carpio haematopterus*, *Rutilus rutilus*, *Leuciscus lehmanni, Tinca tinca*, *Abramis brama*, *Rostrogobius amurensis* and *Gobio albipinnatus tenuicorpus*. In the basins of rivers emptying into Caspian and Black Seas and the Amur River basin. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
221. Also in the spleen and muscles of *Rutilus rutilus*.
222. Also in the wall of the stomach and pyloric cecae, spleen and kidney of *Mugil chelo* and *M. capito*.
223. The cysts are lenticular.
224. Name pre-occupied by *M. variabilis* Jaczó, 1940. The smaller polar capsules are 8.6 (6.5–11.4) × 2.2 (1.6–3.2). The figures refer to spores from the gills. Those in the muscles are LS 13.1 (11.0–16.3), WS 6.9 (4.9–8.1), LPC 6.3 (6.5–9.8) and WPC 2.6 (1.6–3.2). In the connective tissue of the gill-filaments and subcutaneous tissue in the

head of Amur wild carp, spiny bitterling and whiskered chub. In Amur River basin.
225. In gills, operculum, skin, mesenteries, wall of gall bladder, intestine, urinary bladder, liver, kidneys and gonads of a great number of hosts from rivers emptying into Baltic, Barents, White, Black, Azov and Aral Seas, etc. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
226. In *Perca fluviatilis*, *Leuciscus waleckii*, *Scardinius eryophthalmus* and *Phoxinus percnurus mantschuricus* of River Preguel and basins of the Dniester, Dnieper, Yenisei and Amur Rivers. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
227. Also in the intestine, ovary and other organs of barbel, Dnieper barbel and big-headed barbel from the Neman, Danube, Dnieper and Arak River basins. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
228. The smaller polar capsules are 7.5 (6.5–11.4) × 2.5 (1.6–3.4).
229. In *Cyprinus carpio haematopterus* and the old world minnow from the Danube, Dnieper and Amur River basins and the upper reaches of the Amur-Darya River. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
230. Name pre-occupied by *M. orbiculatus* Kudo, 1920.
231. The smaller polar capsules are 4.7–6.6 × 2.4–3.8.
232. The smaller polar capsules are 2.2–3.3 × 1.1–2.5.
233. The smaller polar capsules are 4.5–6.2 × 2.1–3.
234. Name pre-occupied by *M. variabilis* Jaczó, 1940. The smaller polar capsules are 3.2–3.6 × 2.1–2.7.
235. The smaller polar capsules are 3.3–4.1 × 1.7–2.2.
236. The smaller polar capsules are 3–3.2 wide.
237. The smaller polar capsules are 4.8–7 × 2–3.
238. The smaller polar capsules are 4.3–5.5 × 2–4.
239. The smaller polar capsules are 4–5.8 × 2.3–3.3.
240. Also in *Carassius auratus gibelio*.
241. Landsberg & Lom (1991) proposed the same name.
242. Some spores can be 8.5–10 long × 6.5 wide.
243. The smaller polar capsules are 4.2–3.5 × 2.5–3.
244. The cysts on the internal face of the operculum are 3.5 mm in diameter. The smaller polar capsules are 5.1 × 2.1.
245. Also in *Perca fluviatilis*.
246. Also in *Plectorhynchus mediterraneus*.
247. Name pre-occupied by *M. kiangsuensis* Ma, 1992.
248. Name pre-occupied by *M. intestinalis* Kudo, 1920.
249. Name pre-occupied by *M. ellipticus* (Fujita, 1924) Landsberg & Lom, 1991.
250. Name pre-occupied by *M. barbi* Tripathi, 1952. Also in *Barbus guirali, B. jae* and *B. mortorelli*.
251. Name pre-occupied by *M. abbotinae* Ma et al., 1982.
252. Name pre-occupied by *M. capoeta* Chen in Chen & Ma, 1998.
253. Name pre-occupied by *M. obovoides* Nie & Lie, 1973.
254. Name pre-occupied by *M. clarii* Chakravarty, 1943.
255. Name pre-occupied by *M. schizothoraxi* Ma, 1998. Also in *Schizothorax wangchiachii* and *S. meridionalis*.
256. The smaller polar capsules are 1.7–2.2 long.
257. The smaller polar capsules are 4.4 × 2.7.
258. Name pre-occupied by *M. rasborae* Chen in Chen & Ma, 1998.
259. Name pre-occupied by *M. sinkiagensis* Chen in Chen & Ma, 1998.
260. Name pre-occupied by *M. pyryformis* Ma, 1998.
261. Name pre-occupied by *M. liahosensis* Ma, 1998.
262. Name pre-occupied by *M. cheni* Shulman, 1962.
263. Name pre-occupied by *M. tunghuensis* Chen in Chen & Ma, 1998.
264. Name pre-occupied by *M. barbodesi* Ma, 1998.
265. Name pre-occupied by *M. mapienensis* Ma, 1998.
266. Name pre-occupied by *M. taihuensis* Ma, 1993.
267. Also in the wall of the stomach, pyloric caeca, intestine and gall-bladder.
268. Name pre-occupied by *M. acrosssocheilusi* Ma & Zhao, 1992.
269. Name pre-occupied by *M. yaanensis* Ma & Zhao, 1992.
270. Name pre-occupied by *M. synodonti* Fomena et al., 1985.
271. Name pre-occupied by *M. chengkiangensis* Ma, 1998.
272. Name pre-occupied by *M. hainanensis* Chen in Chen & Ma, 1998.
273. Under the dermis of the inner surface of the gill-arch.
274. Also in *Cyprinus carpio*.
275. Name pre-occupied by *M. carassii* Klokacheva, 1914.
276. Name pre-occupied by *M. chungnanensis* Chen in Chen & Ma, 1998
277. Name pre-occupied by *M. sinkiangensis* Chen in Chen & Ma, 1998.
278. Also in *Notemigonus crysoleucas*.
279. The length of the smaller polar capsule is 15.4 (13.5–16.9).
280. The cysts are reniform.
281. Also in *Barbus sharpeyi*.
282. The smaller polar capsules are 3.0 (2.9–3.2) × 2.1 (2.0–3.2) and the polar filament forms 3–4 coils.
283. Also in *Barbus sharpeyi*. The smaller polar capsules are 4.8 (4.5–5.1) in length, and the polar filament forms 6–7 coils.
284. Name pre-occupied by *M. anguilli* Wu, 1977.
285. Name pre-occupied by *M. garrae* Ma, Dong & Wang, 1982.
286. Name pre-occupied by *M. gnathopogonae* (Inoue & Hoshina, 1983) Landsberg & Lom, 1991.
287. Name pre-occupied by *M. obliquus* Kudo, 1934.
288. Data taken from Bykhovskaya-Pavlovskaya et al., 1962.
289. Data taken from Shulman, 1984.
290. Also in *Rutilus rutilus* and *Abramis brama*.
291. The smaller polar capsules are 2.4 (2–3) × 1.8 (1.5–2) and the polar filament forms, apparently, 3 coils. The round or oval plasmodia are 80–120 to 200–400.
292. The smaller polar capsules are 3.2 (2.5–3.8) × 1.8 (1.3–2) and the polar filament forms 4–5 coils.

Acknowledgements

The authors are grateful to the following colleagues for helping with bibliographical data: A.J.S. Grácio, A. Laurens, A. Toranzo, B.S. Toguebaye, C. Azevedo, K.A.S. AL-Rasheid, D. Gibson, D. Huchzermeyer, D.P. Haldar, G. Casal, G. Costa, H. Taraschewski, J. Barja, J.G. Wang, J. Malvisi, K. Knopf, K. Ogawa, K. Schreckenbach, M.A. Grácio, M.J. Santos, M.L.G.G. Dias, M.P.

Alvarez-Pellitero, P. Burkhardt-Holm, P. Santos, S.S. Desser, T. Aoki, W. Piasecki and X.N. Gong. Suggestions of Dr D.I. Gibson for improving the manuscript were very much appreciated.

References

Abolarin, M.O. (1974) *Myxobolus tilapiae* sp. nov. (Protozoa: Myxosporida) from three species of fresh-water *Tilapia* in Nigeria. *Journal of the West African Science Association*, **19**, 109–114.

Adriano, E.A., Arana, S., Ceccarelli, P.S. & Cordeiro, N.S. (2002) Light and scanning microscopy of *Myxobolus porofilus* sp. n. (Myxosporea: Myxobolidae) infecting the visceral cavity of *Prochilodus lineatus* (Pisces: Characiformes: Prochilodontidae) cultivated in Brazil. *Folia Parasitologica*, **49**, 259–262.

Akhmerov, A.K. (1954) On closely related species of a new myxosporean genus. *Doklady Akademie Nauk SSR*, **97**, 1101–1103 (In Russian).

Akhmerov, A.K. (1956) Parasite fauna of the Amur carp and its epizootiological significance. *Trudy Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Prudovogo Rybnogo Khoyaistva*, **8**, 206–218 (In Russian).

Akhmerov, A.K. (1960) Myxosporidia of fishes of the Amur River Basin. *Rybnoe Khozyaistvo Vnutrikh Vodoemov Latviiskoi SSR*, **5**, 239–308 (In Russian).

Ali, M.A., Abdel-Baki, A.S., Sakram, T., Entzeroth, R. & Abdel-Ghaffar, F. (2003) Light and electron microscopic studies of *Myxobolus stomum* n. sp. (Myxosporea: Myxobolidae) infecting the blackspotted grunt *Plectorhynchus gaterinus* (Forskal, 1775) in the Red Sea, Egypt. *Parasitology Research*, **91**, 390–397.

Ali, M.A., AL-Rasheid, K.A.S., Sakran, T., Abdel-Baki, A.-A. & Abdel-Ghaffar, F.A. (2002) Some species of the genus *Myxobolus* (Myxozoa: Myxosporea) infecting freshwater fish of the River Nile, Egypt, and the impact on their hosts. *Parasitology Research*, **88**, 9–15.

Allamuratov, B. (1966) New species of parasitic protozoa found in the fish of South-Surkham Reservoir. *Uzbekskoi Biologicheski Zhurnal*, **10**, 58–60 (In Russian).

Allamuratov, B. (1967) New species of Myxosporidia of Uzbekistan fishes. *Akademiya Nauk Ukrainskoy RSR. Dopov-idi. Seriya B. Geologiya, Geofizika, Khimiya, ta Biologiya*, **29**, 270–273 (In Russian).

Allamuratov, B. & Iskov, M.P. (1970) Several new protozoans parasites of fishes of the River Surkhandarya. *Uzbekskoi Zoologicheski Zhurnal*, **4**, 43–46 (In Russian).

Aragão, M. (1919) *Myxobolus lutzi* n. sp. *Revista da Sociedade Brasileira de Ciências*, **3**, 325.

Auerbach, M. (1906) Ein *Myxobolus* im Kopke von *Gadus aeglefinus* L. *Zoologischer Anzeiger*, **30**, 568–570.

Auerbach, M. (1906) Ein neuer *Myxobolus* im Brachsen (*Abramis brama* L.). *Zoologischer Anzeiger*, **31**, 386–391.

Awerinzew, S. (1913) *Myxobolus magnus* nov. sp. *Zoologischer Anzeiger*, **42**, 75–76.

Azevedo, C., Corral, L. & Matos, E. (2002) *Myxobolus desaequalis* n. sp. (Myxozoa, Myxosporea), parasite of the Amazonian freshwater fish, *Apteronotus albifrons* (Teleostei, Apteronotidae). *Journal of Eukaryotic Microbiology*, **4**, 485–488.

Azhurova, M. & Pugachev, O.N. (1988) *Myxobolus montanus* n. sp. (Myxobolidae, Myxosporea) from *Schizopygopsis stoliczkai*. *Parazitologiya*, **22**, 435–436 (In Russian).

Bahri, S. & Marques, A. (1996) Myxosporean parasites of the genus *Myxobolus* from *Mugil cephalus* in Ichkeul lagoon, Tunisia: description of two new species. *Diseases of Aquatic Organisms*, **27**, 115–122.

Bajpai, R.R.N., Kundu, T.K. & Haldar, D.P. (1981) Observations on *Myxosoma magauddi* n. sp. (Myxozoa: Myxosomatidae) parasite on the gill filaments of *Trichogaster fasciatus* Bl. Schn. *Rivista di Parassitologia*, **3**, 343–350.

Baker, J.R. (1963) Three new species of *Myxosoma* (Protozoa: Myxosporididia) from East African freshwater fish. *Parasitology*, **53**, 285–292.

Baska, F. & Masoumian, M. (1996) *Myxobolus molnari* sp. n. and *M. mokhayeri* sp. n. (Myxosporea, Myxozoa) infecting a Mesopotamian fish, *Capoeta trutta* Heckel, 1843. *Acta Protozoologica*, **35**, 151–156.

Basu, S. & Haldar, D.P. (2002) Observations on three new species of *Myxobolus* Bütschli, 1882 from hybrid carps of West Bengal, India. *Indian Journal of Environmental and Ecoplanning*, **6**, 629–640.

Basu, S. & Haldar, D.P. (2003) Three new species of *Myxobolus* Bütschli, 1882 from different food fishes of West Bengal, India. *Acta Protozoologica*, **42**, 245–251.

Bhatt, V.S. & Siddiqui, W.A. (1964) Four new species of Myxosporidia from the Indian fresh water fish *Ophiocephalus punctatus* Bloch. *Journal of Protozoology*, **11**, 314–316.

Bocharova, T.A. & Donec, Z.S. (1974) New species of myxosporidians (Myxosporidia, Cnidosporidia) from fishes of the Vasyugan Basin. *Parazitologiya*, **8**, 74–76 (In Russian).

Bond, F.F. (1938) Cnidosporidia from *Fundulus heteroclitus* Lin. *Transactions of the American Microscopical Society*, **57**, 107–122.

Bond, F.F. (1939) Myxosporidia from fishes of the genus *Esox*. *Journal of Parasitology*, **25**, 377–381.

Bonetto, A. & Pignalberi, C. (1965) *Myxobolus paranensis* (Protozoa, Myxosporidea), una nueva especie parasita del "Dorado" (*Salminus maxillosus*). *Physis*, **25**, 23–26.

Browne, R.K., Scheltinga, D.M., Pomering, M. & Mahony, M. (2001) Testicular myxosporidiasis in anurans, with a description of *Myxobolus fallax* n. sp. *Systematic Parasitology*, **52**, 97–110.

Bykhovskaya-Pavlovskaya, I.E., Gusev, A.V., Dubinina, M.N., Izymova, N.A., Smirnova, T.S., Sokolovskaya, I.L., Shtein, G.A., Shul'man, S.S. & Epsthein, V.M. (1962) *Key to the parasites of freshwater fish of the USSR*. Jerusalem (1964): Israel Program for Scientific Translations, 919 pp. (Russian original: *Opredelitel' parazitov presnovohnyh ryb SSSR*. Moscow-Leningrad: Izadtel'stovo Akademii Nauk SSSR, 776 pp.).

Cai, X.H. & Wu, B.H. (1985) Three new myxosporean species parasitic in fishes from the Cao-e Lake Zhejiang Province. *Acta Zootaxonomica Sinica*, **10**, 229–233 (In Chinese).

Casal, G., Matos, E. & Azevedo, C. (1996) Ultrastructural data on the life cycle stages of *Myxobolus braziliensis* n. sp., parasite of an Amazonian fish. *European Journal of Protistology*, **32**, 123–127.

Casal, G., Matos, E. & Azevedo, C. (2002) Ultrastructural data on the spore of *Myxobolus maculatus* n. sp. (phylum Myxozoa), parasite from the Amazonian fish *Metynnis*

maculatus (Teleostei). *Diseases of Aquatic Organisms*, **51**, 107–111.

Cellere, E.F., Cordeiro, N.S. & Adriano, E.A. (2002) *Myxobolus absonus* sp. n. (Myxozoa: Myxosporea) parasitizing *Pimelodus maculatus* (Siluriformes: Pimelodidae), a South American freshwater fish. *Memórias do Instituto Oswaldo Cruz*, **97**, 79–80.

Chakravarty, M. (1939) Studies on myxosporidia from the fishes of Bengal, with a note on the myxosporidian infection in aquaria fishes. *Archiv für Protistenkunde*, **92**, 161–178.

Chakravarty, M. (1943) Studies on myxosporidia from the common food fishes of Bengal. *Proceedings of the Indian Academy of Sciences*, **18**, 21–35.

Chakravarty, M. & Basu, M.S. (1948) Observations on some myxosporidians parasitic in fishes, with an account of nuclear cycles in one of them. *Proceedings of the Zoological Society of Bengal*, **1**, 23–33.

Chaudhuri, S.R. & Chakravarty, M. (1970) Studies on myxosporidia (Protozoa, Sporozoa) from the food fishes of Bengal. I. Three new species from *Ophiocephalus punctatus* Bloch. *Acta Protozoologica*, **8**, 167–173.

Chen Q.L. (1973) *An illustrated guide to the fish diseases and causative pathogenic fauna and flora in the Hubei Province*. Beijing: Science Press, pp. 61–87 (In Chinese).

Chen Q.L. & Hsieh X.R. (1960) Studies on sporozoa from the freshwater fishes *Ophiocephalus maculatus* and *O. argus* of China. *Acta Hydrobiologica Sinica*, **2**, 171–196 (In Chinese).

Chen Q.L. & Ma C.L. (1998) *Myxozoa, Myxosporea. Fauna Sinica*. Beijing: Science Press, pp. 292–528 (In Chinese).

Chernova, T.N. (1970) New species of mucous sporozoans (Myxosporidia) of fish in some reservoirs of western Georgia. *Vestnik Zoologii*, **2**, 60–64 (In Russian).

Cone, D.K., Horner, R.W. & Hoffman, G.L. (1990) Description of *Myxobolus corneus* (Myxosporea): a new species from the eyes of Bluegill from Illinois. *Journal of the Aquatic Animal Health*, **2**, 132–134.

Cone, D.K. & Anderson, R.C. (1977) Myxosporidan parasites of pumpkinseed (*Lepomis gibbosus* L.) from Ontario. *Journal of Parasitology*, **63**, 657–666.

Cone, D.K. & Overstreet, R. (1997) *Myxobolus mississipiensis* n. sp. (Myxosporea) from gills of *Lepomis macrochirus* in Mississippi. *Journal of Parasitology*, **83**, 122–124.

Cone, D.K. & Overstreet, R.M. (1998) Species of *Myxobolus* (Myxozoa) from the bulbus arteriosus of centrarchid fishes in North America, with a description of two new species. *Journal of Parasitology*, **84**, 371–374.

Cone, D.K. & Raesly, R.L. (1995) Redescription of *Myxobolus rhinichthidis* (Myxosporea) parasitizing *Rhinichthys cataractae*, with a revised taxonomic list of species of *Myxobolus* known from North American freshwater fishes. *Canadian Journal of Fisheries and Aquatic Sciences*, **52** (Suppl. 1), 7–12.

Cone, D.K., Stickel, R.G., Eck, G.W. & Muzzall, P.M. (1996) *Myxobolus cognati* n. sp. (Myxosporea) from the opercular integument of *Cottus cognatus* (Cottidae) in Lake Michigan. *Journal of Parasitology*, **82**, 137–139.

Daniyarov, M.R. (1975) New species of the genus *Myxobolus* (Myxosporidia, Bivalvulea) of fish from Kafirnigan River Basin and Chilu-Char Chashma Springs (Tadzhik SSR). *Doklady Akademii Nauk Tadzhikskoi SSR*, **18**, 67–68 (In Russian).

Davis, H.S. (1917) Myxosporidia of the Beaufort, a systematic and biology study. *Bulletin of the United States Bureau of Fisheries*, **35**, 201–243.

Davis, H.S. (1923) Studies on sporulation and development of the cysts in a new species of myxosporidia, *Lentospora ovalis*. *Journal of Morphology*, **37**, 425–455.

Davis, H.S. (1947) Studies of the protozoan parasites of freshwater fishes. *Fisheries Bulletin, United States Fish and Wildlife Service*, **41**, 1–29.

Desser, S.S. (1993) *Myxobolus lii* nom. nov.: a replacement for *M. gibbosus* Li and Desser, 1985 (Myxosporea: Myxozoa), preoccupied. *Canadian Journal of Zoology*, **71**, 1461.

Dogel, V.A. & Bogolepova, I.I. (1957) Parasitic fauna of Lake Baikal fishes. *Trudy Baikalskoi Limnologicheskoi Stantsii, Akademiya Nauk SSR Vostochno-Sibirski Filial*, **15**, 427–464 (In Russian).

Donec, Z.S. (1962) New species of Myxosporidia of the River Dniepr. *Dopovidi Akademii Nauk Ukrajn'skoi RSR*, **5**, 676–680 (In Russian).

Donec, Z.S. (1984) in Shulman, S.S. (Ed.) Parasitic Protozoa. *In*: Bauer, O.N. (Ed.) *Key to parasites of freshwater fish of the USSR*. Leningrad: "Nauka", Vol. 1, 426 pp (In Russian).

Donec, Z.S., Vartanyan, L.K. & Mkrtchyan, Z.A. (1973) A new species of myxosporidia (Myxosporidia: Cnidosporidia) from the muscles of the trout. *Biologicheski Zhurnal Armenii*, **26**, 84–87 (In Russian).

Dyková, I., Fiala, I. & Nie, P. (2002) *Myxobolus lentisuturalis* sp. n. (Myxozoa: Myxobolidae), a new muscle-infecting species from the Prussian carp, *Carassius gibelio* from China. *Folia Parasitologica*, **49**, 253–258.

Dzhalilov, U.D. & Ashurova, M. (1971) New species of Myxosporidia of fishes from the River Panj. *Doklady Akademii Nauk Tadzhikskoi SSR*, **14**, 70–71 (In Russian).

Dzhalilov, U.D. & Daniyarov, M.R. (1975) A new species of the genus *Myxobolus* (Myxosporidia: Bivalvulea) of fish from the Kafirnigan River Basin and Chilu-Char Chashma Springs (Tadzhik SSR). *Doklady Akademii Nauk Tadzhikskoi SSR*, **18**, 68–69 (In Russian).

Egusa, S. (1985) *Myxobolus buri* sp. n. (Myxosporea: Bivalvulida) parasitic in the brain of *Seriola quinqueradiata* Temminck et Schlegel. *Fish Pathology*, **19**, 239–244.

Egusa, S., Maeno, Y. & Sorimachi, M. (1990) A new species of Myxozoa, *Myxobolus episquamalis* sp. nov. infecting the scales of the mullet, *Mugil cephalus* L. *Fish Pathology*, **25**, 87–91.

Eiras, J.C. & D'Souza, J. (2004) *Myxobolus goensis* n. sp. (Myxozoa, Myxosporea, Myxobolidae), a parasite of the gills of *Mugil cephalus* (Osteichthyes, Mugilidae) from Goa, India. *Parasite*, **11**, 243–248.

El-Matbouli, M. & Hoffman, R. (1987) Eine neue *Myxobolus*-Art (Myxozoa, Myxobolidae) im Zentralnervensystem der Koppe (*Cottus gobio*). *Verhandlugen der Deutschen Zoologischen Gesellschaft*, **80**, 191.

Ewers, W.W. (1973) *Myxobolus chimbuensis* n. sp. (Family: Myxobolidae; Cnidosporidia; Protozoa) from the testes of the hylid frog *Litoria darlingtoni*, from New Guinea. *Science in New Guinea*, **1**, 16–19.

Fahmy, M.A., Mandour, A.M. & El-Naffar, M.K. (1971) *Myxobolus niloticus* n. sp. in the fish *Labeo niloticus* from the River Nile of Assiut. *Journal of the Egyptian Society for Parasitology*, **10**, 39–46.

Fall, M., Fomena, A., Kosto, B., Diebakate, C., Faye, N. & Toguebaye, B.S. (2000) Myxosporidian (Myxozoa, Myxosporea) parasites of cichlid fishes from Cameroon, Senegal and Chad with a description of two new species. *Annales des Sciences Naturelles–Zoologie et Biologie Animale*, **21**, 81–92.

Fall, M., Kpatcha, K.P., Diebakate, C., Faye, N. & Toguebaye, B.S. (1997) Observations sur des Myxosporidies (Myxozoa) du genre *Myxobolus* parasites de *Mugil cephalus* (Poisson, Téléostéen) du Sénégal. *Parasite*, **2**, 173–180.

Fantham, H.B. (1930) Some parasitic protozoa found in South Africa. 13. *South African Journal of Science*, **27**, 376–390.

Fantham, H.B., Porter, A. & Richardson, L.R. (1939) Some new myxosporidia found in certain freshwater fishes in Quebec Province, Canada. *Parasitology*, **31**, 1–77.

Fantham, H.B., Porter, A. & Richardson, L.R. (1940) Some more myxosporidia observed in Canadian fishes. *Parasitology*, **32**, 333–353.

Faye, N., Kpatcha, T.K., Diebakate, C., Fall, M. & Toguebaye, B.S. (1999) Gill infections due to myxosporean (Myxozoa) parasites in fishes from Senegal with description of *Myxobolus hani* sp. n. *Bulletin of the European Association of Fish Pathologists*, **19**, 14–16.

Feng S.J. & Wang J.G. (1990) Four new species of myxosporidia from the freshwater fishes in Danjiangkou reservoir. *Acta Hydrobiologica Sinica*, **14**, 68–74 (In Chinese).

Fish, F.F. (1938) Notes on *Myxobolus inornatus*, n. sp., a myxosporidian parasitic in the black bass (*Huro floridana*, Le Sueur). *Transactions of the American Fisheries Society*, **68**, 173–177.

Fomena, A., Abakar-Ousman, Ngassam, P. & Bouix, G. (2004) Description de trois espèces nouvelles de Myxosporidies (Myxozoa: Myxosporea) parasites de *Citharinus citharus* (Geofroy Saint Hilaire, 1809) (Citharinidae) au Tchad (Afrique Centrale). *Parasite*, **11**, 83–88.

Fomena, A. & Bouix, G. (1994) New myxosporidea species (Myxozoa) from freshwater teleosts in southern Cameroon (Central Africa). *Journal of African Zoology*, **108**, 481–491.

Fomena, A. & Bouix, G. (1997) Myxosporea (Protozoa: Myxozoa) of freshwater fishes in Africa: keys to genera and species. *Systematic Parasitology*, **37**, 161–178.

Fomena, A. & Bouix, G. (2000) *Henneguya mbakouensis* sp. nov., *Myxobolus nounensis* sp. nov. and *M. hydrocini* Kostoingue & Toguebaye, 1994, Myxosporea (Myxozoa) parasites of Centropomidae, Cichlidae and Characidae (Teleosts) of the Sanaga basin in Cameroon (Central Africa). *Parasite*, **7**, 209–214.

Fomena, A., Bouix, G. & Birgi, E. (1984–85) Contribution à l'étude des myxosporidies des poissons d'eau douce du Cameroun. III. Espèces nouvelles du genre *Myxobolus* Bütschli, 1882. *Bulletin de l'Institut Fondamentale de l'Afrique Noire*, sér. A, **46**, 169–192.

Fomena, A., Marques, A. & Bouix, G. (1993) Myxosporidea (Myxozoa) of *Oreochromis niloticus* (Linnaeus 1757) (Teleost Cichlidae) in fish-farming pools at Melen (Yaoundé, Cameroon, Central Africa). *Journal of African Zoology*, **197**, 45–56.

Fomena, A., Marques, A., Bouix, G. & Njine, T. (1994) *Myxobolus bilongi* n. sp., *Thelohanellus assambai* n. sp. et *Thelohanellus sanagaensis* n. sp., myxosporidies parasites de *Labeo* sp. (Téléostéen Cyprinidae) du bassin de la Sanaga au Cameroun (Afrique Centrale). *Annalles de la Faculté des Sciences de Yaoundé*, **3**, 131–142.

Frey, K.J., Cone, D.K. & Duobinis-Gray, L.F. (1998) *Myxobolus petenensis* n. sp. (Myxosporea) from the circumorbital integument of *Dorosoma petenense* (Clupeidae) in Kentucky Lake. *Journal of Parasitology*, **84**, 1204–1206.

Fujita, T. (1912) Notes on new sporozoan parasites of fishes. *Zoologischer Anzeiger*, **39**, 259–262.

Fujita, T. (1924) Studies on myxosporidian infection of the crucian carp. *Japanese Journal of Zoology*, **1**, 45–57.

Fujita, T. (1927) Studies on myxosporidia of Japan. 5. On myxosporidia in fishes of Lake Biwa. *Journal of the College of Agriculture, Hokkaido Imperial University*, Sappora, **26**, 229–247.

Fujita, T. (1929) The skin-disease of the eel. *Annotationes Zoologicae Japonenis*, **12**, 245–250.

Gaevskaya, A.V. et al. (1975) *Key to parasites of vertebrates in the Black and Azov Seas (parasitic invertebrates of fish, fish-eating birds and marine mammals)*. Kiev: Naukova Dumka, 551 pp (In Russian).

Gasimagomedov, A.A. (1970) New species of myxosporea in the fishes of the Caspian Sea. *Sbornik Nauchnykh Soobshchenii Kafedry Fiziologii Cheloveka i Zhivomykh Respubliki Dagestan. Makkachkala*, **4**, 72–76 (In Russian).

Georgevich, J. (1950) Contribution à l'étude des myxosporidies des poissons du Lac Ochrid. *Bulletin de l'Académie Serbe des Sciences. Classe des Sciences Mathematiques et Naturelles*, **1**, 55–61.

Ghittino, P. (1962) Lentosporiasi branchiale in cavedani (*Leuciscus cephalus cabeda*) pescati nelle acque del bacino del Po in Piemonte. *Rivista di Parassitologia*, **23**, 241–248.

Gioia, I. & Cordeiro, N.S. (1996) Brazilian myxosporidians' check-list. *Acta Protozoologica*, **35**, 137–149.

Gogebashvili, I.V. (1966) Parasitic protozoans of fish in the Kura River (within the boundaries of Georgia). *Soobshcheniya Akademii Nauk Gruzinskoi SSR*, **43**, 465–472 (In Russian).

Gonzalez-Lanza, M.C. & Alvarez-Pellitero, M.P. (1984) *Myxobolus farionis* n. sp. and *M. ibericus* n. sp. of *Salmo trutta* f. *fario* from the Duero basin (NW Spain). Description and population dynamics. *Angewandte Parasitologie*, **25**, 181–189.

Gonzalez-Lanza, M.C. & Alvarez-Pellitero, M.P. (1985) *Myxobolus* spp. of various cyprinids from the river Esla (Léon, NW Spain). Description and population dynamics. *Angewandte Parasitologie*, **26**, 71–83.

Gorbunova, M. (1936) Changes in the parasitic fauna of pike and roach according to their age. *Uchennye Zapiski Leningradskogo Ordena Lenina Gosudarstvennogo Universiteta.* No. 7 (Biol. Ser.), Fasc. 3. *Problems of ecological parasitology*, pp. 5–30 (In Russian).

Grinham, T. & Cone, D.K. (1990) A review of species of *Myxobolus* (Myxosporea) parasitizing catostomid fishes, with a redescription of *Myxobolus bibullatus* (Kudo, 1934) n. comb. and description of *Myxobolus lamellus* n. sp. from *Catostomus commersoni* in Nova Scotia. *Canadian Journal of Zoology*, **68**, 2290–2298.

Guilford, H.G. (1963a) New species of Myxosporidia found in percid fishes from Green Bay (Lake Michigan). *Journal of Parasitology*, **49**, 474–478.

Guilford, H.G. (1963b) New species of myxosporidia from Green Bay (Lake Michigan). *Transactions of the American Microscopical Society*, **84**, 566–573.

Guilford, H.G. (1967) *Myxosoma pendula* n. sp. (Protozoa, Myxosporida) from the creek chub *Semotilus atromaculatus*. *Journal of Protozoology*, **14**, 196–198.

Guimarães, J.R.A. & Bergamin, F. (1938) Sobre um novo myxosporideo parasito de peixe de água doce. *Myxobolus kudoi* sp. n. *Revista de Indústria Animal*, **1**, 65–67.

Gurley, M.D. (1893) On the classification of the myxosporidia, a group of protozoa parasites infecting fishes. *Bulletin of the United States Fish Commission*, **11**, 407–420.

Guyénot, E. & Naville, A. (1922) Sur une Myxosporidie (*Myxobolus ranae* n. sp.) et une Microsporidie parasites de *Rana temporaria*. *Revue Suisse de Zoologie*, **29**, 413–425.

Ha K.Y. (1971) Some myxosporidians of freshwater fishes of the North Vietnam. *Acta Protozoologica*, **8**, 283–298.

Hagargi, S.S. & Amoji, S.D. (1981) *Myxosoma karnatakae*, n. sp. (Protozoa: Myxosporidia) from the caudal muscles of fresh water teleost fish *Barbus chola* (Ham. et Buch.). *Archiv für Protistenkunde*, **124**, 385–390.

Haldar, D.P., Das, M.K. & Sharma, B.K. (1983) Studies on protozoan parasites from fishes. Four new species of the genera *Henneguya* Thélohan, 1892, *Thelohanellus* Kudo, 1933, and *Myxobolus* Bütschli, 1892. *Archive für Protistenkunde*, **127**, 283–296.

Haldar, D.P., Mukherjee, M. & Kundu, T.K. (1981) Observations on two new species of *Myxosoma* Thélohan, 1892 (Myxozoa: Myxosomatidae) from freshwater fishes. *Archiv für Protistenkunde*, **124**, 244–251.

Haldar, D.P., Samal, K.K. & Mukhopadhyaya, D. (1996) Studies on the protozoan parasites of fishes in Orissa: eight species of *Myxobolus* Bütschli (Myxozoa: Bivalvulida). *Journal of the Bengal Natural History Society*, **16**, 3–24.

Herrick, J.A. (1936) Two new species of *Myxobolus* from fishes of Lake Erie. *Transactions of the American Microscopical Society*, **55**, 194–198.

Herrick, J.A. (1941) Some myxosporidian parasites of Lake Erie fishes. *Transactions of the American Microscopical Society*, **60**, 163–170.

Hine, P.M. (1977) *Myxobolus iucundus* n. sp. (Sporozoa: Myxosporidea) parasitic in *Galaxias maculatus* (Jenyns, 1842) in New Zealand. *Journal of the Royal Society of New Zealand*, **7**, 157–161.

Hoffman, G.L., Putz, R.E. & Dunbar, C.E. (1965) Studies on *Myxosoma cartilaginis* n. sp. (Protozoa: Myxosporidia) of centrarchid fish and a synopsis of the *Myxosoma* of North American freshwater fishes. *Journal of Protozoology*, **12**, 319–332.

Hoshina, T. (1949) On a new myxosporidian parasite of the genus *Myxosoma*, *M. salmonis* n. sp., infecting on the scales of the dog salmon. *Seibutsu*, **4**, 106–109.

Hoshina, T. (1952) Notes on some myxosporidian parasites on fishes of Japan. *Journal of the Tokyo University of Fisheries*, **39**, 68–89.

Hoshina, T. (1953) On a new myxosporidian parasite, *Myxobolus dermatobius* n. sp., parasitic in the integument of *Cyprinus carpio* L. *Journal of the Tokyo University of Fisheries*, **39**, 209–213.

Hsieh X.R., Gong X.N. & Xiao W.H. (1993) Descriptions of a new model of myxosporean sporogenesis and a new species. *Transactions of Researches on Fish Diseases*, **1**, 77–82 (In Chinese).

Hu J.L. (1965) Preliminary study on the myxosporidians parasitic fishes from four lakes in the South Shandong Province. *Journal of Fisheries of China*, **2**, 45–66 (In Chinese).

Ibragimov, S.R. (1977) New myxosporidian species of the genus *Myxobolus* (Protozoa: Myxosporidia) from barbels of the River Leukoranchai (Azerb. SSR). *Parazitologiya*, **11**, 537–538 (In Russian).

Iglesias, R., Paramá, A., Alvarez, F., Leiro, J. & Sanmartín, M.L. (2001) Myxobolid parasites infecting the gills of the Iberian nase, *Chondrostoma polylepis* (Steindachner), in Galicia (NW Spain), with a description of *Myxobolus gallaicus* sp. nov. *Journal of Fish Diseases*, **24**, 125–134.

Inoue, K. & Hoshina, T. (1983) *Myxosoma gnathopogonae* sp. nov. (Myxosporea, Bivalvulida) found in the cutis of the roach *Gnathopogon elongatus caerulescens*. *Japanese Journal of Parasitology*, **32**, 371–378.

Iskow, M.P. & Karataev, A.K. (1982) *Myxobolus percarinae* sp. n. (Myxosporidia) – a new myxosporean from pontic percarina (*Percarina demidoffi*). *Vestnik Zoologii*, **13**, 72–74 (In Russian).

Ishii, S. (1915) *Lentospora* parasitic in the skin of the japanese eel. *Zoological Magazine* (Tokyo), **27**, 471–474.

Ishizaki, H. (1957) Notes on two myxosporidian parasites of the fish. *Bulletin of the Fukuoka Gakugei University*, **7**, 107–112.

Iversen, E.S. (1954) A new myxosporidian, *Myxosoma squamalis*, parasite of some salmonoid fishes. *Journal of Parasitology*, **40**, 397–404.

Iversen, E.S., Chitty, N. & Van Meter, N. (1971) Some Myxosporida from marine fishes in South Florida. *Journal of Protozoology*, **18**, 82–86.

Jaczó, I (1940) Vizsgálatok a Balaton halainak Myxosporidian. I. *Magyar Biológiai Kutató Intézet Munkái*, **12**, 227–290.

Jayasri, M. (1982) Morphology and pathology of *Myxobolus sophorae* n. sp. *Proceedings of the Indian Academy of Parasitology*, **3**, 1–3.

Johnston, T.H. & Bancroft, M.J. (1918) A parasite, *Myxobolus hylae* sp. nov. of the reproductive organs of the golden swamp frog, *Hyla aurea*. *Australian Zoology*, **1**, 171–175.

Johnston, T.H. & Bancroft, M.J. (1919) Some new sporozoon parasites of Queensland freshwater fish. *Journal and Proceedings of the Royal Society of New South Wales*, **52**, 520–528.

Kardousha, M. & El-Tantawy, S. (2002) First record of microsporeans and myxosporeans (protozoa) infecting some Arabian Gulf fish off the coasts of the Emirates and Qatar with description of *Myxobolus arabicus* n. sp. *Arab Gulf Journal of Scientific Research*, **20**, 18–24.

Kabré, G.B., Sakiti, N.G., Marques, A. & Sawadogo, L. (1995) *Myxobolus comoei* sp. n. et *Myxobolus burkinei* n. sp., nouvelles myxosporidies histozoiques chez deux teléostéens, *Clarias anguillaris* et *Labeo coubie*, capturés dans les pêcheries du Burkina Faso (Afrique de L'Ouest). *Bulletin de l'Institut Fondamentale de l'Afrique Noire, Cheikh Anta Diop, Dakar*, sér. A, **448**, 49–55.

Kalantan, A.M.N. & Arfin, M. (1991) Studies on *Myxobolus garrai* sp. n. (Myxozoa, Myxosporea) parasitizing *Garra tibanica* in Saudi-Arabia. *Zoologischer Anzeiger*, **226**, 261–266.

Kalavati, C., Brickle, P. & Mackenzie, K. (2000) Two new species of myxozoan parasites (Myxosporea, Multivalvulida, Bivalvulida) from fishes of the Falkland Islands. *Acta Parasitologica*, **45**, 285–288.

Kalavati, C. & Narasimhamurti, C.C. (1984) A myxosporidian, *Rudicapsula esomi* n. gen., n. sp., from the freshwater fish *Esomus* sp. *Zeitschrift für Parasitenkunde*, **70**, 21–27.

Kalavati, C., Sandeep, B.V. & Narasimhamurti, C.C. (1981) Two new species of myxosporidians, *Myxosoma channai* n. sp. and *Myxobolus tripathii* n. sp., from fresh water fishes of Andhra Pradesh. *Proceedings of the Indian Academy of Sciences (Animal Science)*, **90**, 6–78.

Kandilov, N.K. (1963) New species of myxosporidia occurring in *Varicorhinus capoeta* of the River Kura basin. *Izvestiya Akademii Nauk Azerbaidzhanskoi SSR. Seriya Biologicheskikh i Meditsinskikh Nauk*, **6**, 75–76 (In Russian).

Kashkovskii, V.V., Razmashkin, D.A. & Skripchenko, E.G. (1974) *Diseases and parasites of fishes in Siberian and Ural fisheries*. Sverdlovsk: Sredne-Uralskoe Izdatelstvo, 160 pp (In Russian).

Kazubski, S.L. & El-Tantawy, S.A.M. (1989) *Myxobolus warniakensis* sp. n. (Myxosporidia, Bivalvulea, Myxobolidae) new parasite of *Lota lota* from Lake Warniak (Mazurian Lakeland, Poland). *Acta Parasitologica Polonica*, **34**, 199–202.

Kent, M.L. & Hoffman, G.L. (1984) Two new species of Myxozoa, *Myxobolus inaequus* sp. n. and *Henneguya theca* sp. n. from the brain of a South American knife fish, *Eigemannia virescens* (V.). *Journal of Protozoology*, **31**, 91–94.

Klokacheva, S. (1914) Über di Myxosporidien der Karausche. *Zoologischer Anzeiger*, **44**, 182–186.

Konovalov, S.M. (1967) On certain peculiarities of parasite fauna of pike from the Penzhina River. *Parazitologiya*, **1**, 539–546 (In Russian).

Kostarev, G.F. & Kulemina, I.V. (1971) A new species of *Myxobolus* in fish. *Vestnik Leningradskogo Universita, Seriya Biologii*, **9**, 145–146 (In Russian).

Kosto, B. & Toguebaye, B.S. (1944) Le genre *Myxobolus* (Myxozoa, Myxosporea) chez les poissons d'eau douce du Tchad avec la description de trois nouvelles espèces. *Bulletin de l'Institut fondamentale de l'Afrique Noire*, **47**, 63–71.

Kpatcha, T.K., Diebakate, C., Faye, N. & Toguebaye, B.S. (1995) Three new species of myxosporean parasites of marine fishes from Senegal. *Journal of the Islamic Academy of Sciences*, **8**, 34–38.

Kudo, R. (1917) Contributions to the study of parasitic protozoa. II. *Myxobolus toyamai* nov. spec., a new myxosporidian parasite in *Cyprinus carpio* L. *Journal of Parasitology*, **3**, 163–170.

Kudo, R. (1919) Studies on Myxosporidia. A synopsis of genera and species of Myxosporidia. *Illinois Biological Monographs*, **5**, 1–265.

Kudo, R. (1923) Development of a myxosporidian, *Myxosoma catostomi* nov. spec. *Anatomical Record*, **24**, 39.

Kudo, R. (1929) Histozoic myxosporidia found in fresh-water fishes of Illinois, U.S.A. *Archiv für Protistenkunde*, **65**, 364–378.

Kudo, R. (1933) A taxonomic consideration of myxosporidia. *Transactions of the American Microscopical Society*, **52**, 195–216.

Kudo, R. (1934) Studies on some protozoan parasites of fishes of Illinois. *Illinois Biological Monographs*, **13**, 7–44.

Kulemina, I.V. (1969) New species of endoparasitic Protozoa from the fry of Lake Seliger. *Zoologicheski Zhurnal*, **48**, 1295–1298 (In Russian).

Kundu, T.K (1985) *Myxosoma indirae* sp. n. (Myxozoa: Myxosomatidae) from the head cartilage, scale and tail fin of *Cirrhina mrigala*. *Acta Protozoologica*, **24**, 333–337.

Lalitha Kumari, P.S. (1968) On a new species, *Myxobolus seshadrii* (Protozoa: Myxosporidia) from an Indian fresh water fish, *Labeo fimbriatus*. *Rivista di Parassitologia*, **3**, 161–164.

Lalitha Kumari, P.S. (1969) Studies on parasitic protozoa (Myxosporidia) of fresh water fishes of Andhra Pradesh, India. *Rivista di Parassitologia*, **30**, 153–226.

Laird, M. (1953) The protozoa of New Zealand intertidal zone fishes. *Transactions of the Royal Society of New Zealand*, **81**, 79–143.

Landsberg, J.H. (1985) Myxosporean infections in cultured tilapias in Israel. *Journal of Protozoology*, **32**, 194–201.

Landsberg, J.H. (1987) Myxosporean parasites of the catfish, *Clarias lazera* (Valenciennes). *Systematic Parasitology*, **9**, 73–81.

Landsberg, J.H. & Lom, J. (1991) Taxonomy of the genera of the *Myxobolus/Myxosoma* group (Myxobolidae: Myxosporea), current listing of species and revision of synonyms. *Systematic Parasitology*, **18**, 165–186.

Langdon, J.S. (1990) Observations on new *Myxobolus* species and *Kudoa* species infecting the nervous system of Australian fishes. *Journal of Applied Ichthyology*, **6**, 107–116.

Lewis, S.D. (1968) *Myxobolus argenteus* sp. n. (Protozoa; Myxosporida), a parasite of the golden shiner. *Journal of Parasitology*, **54**, 1034–1037.

Lewis, W.M. & Summerfelt, R.C. (1964) A myxosporidian, *Myxobolus notemigoni* sp. n., parasite of the golden shiner. *Journal of Parasitology*, **50**, 386–389.

Li, L. & Desser, S.S. (1985) The protozoan parasites of fish from two lakes in Algonquin Park, Ontario. *Canadian Journal of Zoology*, **63**, 1846–1858.

Li Z.F. & Wu B.H. (1983) Fauna of the myxosporean parasitic fishes from the West Lake of Hangzhou. *Journal of Hangzhou University (Natural Science Edition)*, **10**, 207–220 (In Chinese).

Liu L.Q., Wang B.D. & Yang T. (1982) Study on myxosporidian from *Gymnocypris przewalskii przwalskii*. *Acta Planalto Biology Sinica*, **1**, 61–67 (In Chinese).

Lom, J. (1969a) *Myxobolus undulatus* sp. n., a new myxosporidian from minnow (*Phoxinus phoxinus*). *Folia Parasitologica*, **16**, 296.

Lom, J. (1969b) On a new taxonomic character in Myxosporidia, as demonstrated in description of two new species *of Myxobolus*. *Folia Parasitologica*, **16**, 97–103.

Lom, J. & Cone, D. (1996) Myxosporeans infecting the gills of bigmouth buffalo (*Ictiobus bubalus*) in Illinois, USA. *Folia Parasitologica*, **43**, 37–42.

Lom, J. & Dyková, I. (1994) Studies on protozoan parasites of Australian fishes. 3. Species of the genus *Myxobolus* Bütschli, 1882. *European Journal of Protistology*, **30**, 431–439.

Lom, J. & Hoffman, G.L. (1971) Morphology of the spores of *Myxosoma cerebralis* (Hofer, 1903) and *M. cartilaginis* (Hoffman, Putz & Dunbar, 1965). *Journal of Parasitology*, **57**, 1302–1308.

Lom, J. & Molnár, K. (1983) *Myxobolus basilamellaris* sp. n. (Myxozoa: Myxosporea), a parasite of the gills of common carp (*Cyprinus carpio* L.). *Folia Parasitologica*, **30**, 1–3.

Longshaw, M., Frear, P. & Feist, S.W. (2003) *Myxobolus buckei* sp. n. (Myzozoa), a new pathogenic parasite from the spinal cord of three cyprinid fishes from the United Kingdom. *Folia Parasitologica*, **50**, 251–262.

Ma C.L. (1993a) Description on the myxosporidians parasitic fish from the upstream of Yangtze river. *Journal of Chongqing Normal College (Natural Science Edition)*, **10**, 9–15 (In Chinese).

Ma C.L. (1993b) On the myxosporidians from the fishes of Tai Lake. *Journal of the Chongqing Normal College (Natural Science Edition)*, **10**, 1–17 (In Chinese).

Ma C.L. (1998) On the myxosporeans from the fishes of Sichuan Province. *Journal of Chongqing Normal College (Natural Science Edition)* **15**, 1–25 (In Chinese).

Ma C.L., Dong X.M. & Wang C.S. (1982) New genus and species of myxosporidian from Sichuan Province, China. *Acta Zootaxonomica Sinica*, **7**, 341–352 (In Chinese).

Ma C.L. & Zhao Y.J. (1992) The parasitic myxosporidia of fresh-water fishes from the west region of Sichuan Province. Six new species of the genus *Myxosoma*. *Acta Zootaxonomica Sinica*, **17**, 385–392 (In Chinese).

Ma C.L. & Zhao Y.J. (1993) The parasitic myxosporidia of fresh-water fishes from the west region of Sichuan Province. II. Six new species of the genus *Myxobolus*. *Acta Zootaxonomica Sinica*, **18**, 262–269 (In Chinese).

Maeno, Y., Sorimachi, M., Ogawa, K. & Egusa, S. (1990) *Myxobolus spinacurvatura* sp. n. (Myxosporea: Bivalvulida) parasitic in deformed mullet, *Mugil cephalus*. *Fish Pathology*, **25**, 37–41 (In Japanese).

Maeno, Y., Sorimachi, M., Ogawa, K. & Kearn, G.C. (1995) *Myxobolus spirosulcatus* n. sp. (Myxosporea, Bivalvulida) infecting the bile duct of the yellowtail *Seriola quinqueradiata* from Japan. *Systematic Parasitology*, **31**, 189–193.

Mandal, A.K. & Nair, K.N. (1975) *Myxobolus eeli* sp. n. (Myxobolidae) a new myxosporidium from Indian spiny eel *Mastacembelus armatus* (Lacepede). *Acta Protozoologica*, **14**, 175–178.

Markevitsch, A.P. (1932) Zur Kenntnis der Myxosporidien von Süswasserfischen der Ukraine. *Zoologischer Anzeiger*, **99**, 297–303.

Masoumian, M., Baska, F. & Molnár, K. (1994) Description of *Myxobolus karuni* sp. n. and *Myxobolus persicus* sp. n. (Myxosporea, Myxozoa) from *Barbus grypus* of the River Karun, Iran. *Parasitology Hungarica*, **27**, 21–26.

Masoumian, M., Baska, F. & Molnár, K. (1996a) Description of *Myxobolus bulbocordis* sp. n. (Myxosporea: Myxoblidae) from the heart of *Barbus sharpeyi* (Günter) and histopathological changes produced by the parasite. *Journal of Fish Diseases*, **19**, 15–21.

Masoumian, M., Baska, F. & Molnár, K. (1996b) *Myxobolus nodulointestinalis* sp. n. (Myxosporea, Myxobolidae), a parasite of the intestine of *Barbus sharpeyi*. *Diseases of Aquatic Organisms*, **24**, 35–39.

Meglitsch, P.A. (1937) On some new and known myxosporidia of the fishes of Illinois. *Journal of Parasitology*, **23**, 467–477.

Meglitsch, P.A. (1942) *Myxosoma microthecum* n. sp., a myxosporidian inhabiting the mesenteries of *Minytrema melanops*. *Transactions of the American Microscopical Society*, **61**, 33–35.

Meglitsch, P.A. (1963) On *Myxosoma hoffmani*, sp. nov., inhabiting the eye of *Pimephales notatus* (Raf.). *Transactions of the American Microscopical Society*, **82**, 416–417.

Miroshnichenko, A.I. (1979) *Myxobolus tauricus* sp. n., a new myxosporean species (Cnidosporidia: Myxosporidia) of the Crimean barbel. *Parazitologiya*, **13**, 436–437 (In Russian).

Miroshnichenko, A.I. (1980) *Myxobolus impressus* n. sp., a new myxosporidian (Cnidosporidia, Myxosporidia) from freshwater fish in the Crimea. *Biologicheskie Nauki*, **9**, 38–39 (In Russian).

Mitchell, L.G., Seymour, C.L. & Gamble, J.M. (1985) Light and electron microscopy of *Myxobolus hendricksoni* sp. nov. (Myxozoa: Myxobolidae) infecting the brain of the fathead minnow, *Pimephales promelas* Rafinesque. *Journal of Fish Diseases*, **8**, 75–89

Mitenev, V.K. (1971) New and little known species of myxosporidians from fishes of the Kola Peninsula. *Parazitologiya*, **5,** 556–558 (In Russian).

Molnár, K. (1997) *Myxobolus squamaphilus* sp. n. (Myxozoa: Myxosporea), a common parasite of the scales of bream (*Abramis brama* L.). *Acta Protozoologica*, **36**, 221–226.

Molnár, K. (2000a) *Myxobolus intrachondrealis* sp. n. (Myxosporea: Myxobolidae), a parasite of the gill cartilage of the common carp, *Cyprinus carpio*. *Folia Parasitologica*, **47**, 167–171.

Molnár, K. (2000b) Survey on *Myxobolus* infection of the bleak (*Alburnus alburnus* L.) in the river Danube and in Lake Balaton. *Acta Veterinaria Hungarica*, **48**, 421–432.

Molnár, K. & Békési, L. (1993) Description of a new *Myxobolus* species, *M. colossomatis* n. sp. from the teleost *Colossoma macroponum* of the Amazon River basin. *Journal of Applied Ichthyology*, **9**, 57–63.

Molnár, K., Lom, J. & Malik, E. (1986) A skin disease of the eels caused by *Myxobolus kotlani* n sp. *Journal of Applied Ichthyology*, **2**, 42–48.

Molnár, K., Masoumian, M. & Abasi, S. (1996) Four new *Myxobolus* spp. (Myxosporea: Myxobolidae) from Iranian barboid fishes. *Archiv für Protistenkunde*, **147**, 115–123.

Molnár, K., Ranzani-Paiva, M.J., Eiras, J.C. & Rodrigues, L. (1998) *Myxobolus macroplasmodialis* sp. n. (Myxozoa: Myxosporea), a parasite of the abdominal cavity of the characid teleost, *Salminus maxillosus*, in Brazil. *Acta Protozoologica*, **37**, 241–245.

Moser, M. & Noble, E.R. (1977) Three genera of myxosporida (Potozoa) in macrourid fishes. *International Journal for Parasitology*, **7**, 93–96.

Mulsow, K. (1911) Ein neuer Gehrin parasit des Karpfens. *Algemeine Fischerei-Zeitung*, **36**, 483–485.

Narasimhamurti, C.C. & Kalavati, C. (1979) *Myxosoma lairdi* n. sp. (Protozoa: Myxosporidia) parasitic in the gut of the estuarine fish, *Liza macrolepis* Smith. *Proceedings of the Indian Academy of Sciences*, Section B, **88**, 269–272.

Narasimhamurti, C.C. & Kalavati, C. (1986) A new myxosporidian, *Myxobolus bivacuolatus* n. sp., parasitic in the intestinal wall of the fresh water fish, *Clarias batrachus*. *Archiv für Protistenkunde*, **131**, 153–157.

Narasimhamurti, C.C., Kalavati, C. & Saratchandra, B. (1980) *Myxosoma microspora* n. sp. (Myxosporidia: Protozoa) parasitic in the gills of *Mugil cephalus* L. *Journal of Fish Biology*, **16**, 345–348.

Naville, A. (1928) La meiose, la fécondation et la dihaplophase de *Myxobolus guyénoti* sp. nov. *Zeitschrift für Zellforschung und Mikroskopische Anatomie*, **7**, 228–256.

Negm-Eldim, N.M., Govedich, F.R. & Davies, R.W. (1999) Gill myxosporeans on some Egyptian freshwater fish. *Deutsche Tierarztliche Wochenschrift*, **106**, 459–465.

Nemeczek, A. (1911) Beiträge zur Kenntnis der Myxo-und Microsporidien der Fische. *Archiv für Protistenkunde*, **22**, 143–169.

Nemeczek, A. (1926) Beiträge zur Kenntnis der Myxosporidienfauna Brasiliens. *Archiv für Protistenkunde*, **54**, 137–149.

Nie D.S. & Li L.X. (1992) On the myxosporidians of freshwater fishes from Lake Huama, Hubei Province. II. Descriptions of new species (Myxosporea: Bivalvulida). *Acta Zootaxonomica Sinica*, **17**, 133–150 (In Chinese).

Nigrelli, R.F. (1948) Prickle cell hyperplasia in the snout of the redhorse sucker (*Moxostoma aureolum*) associated with an infection by the myxosporidian *Myxobolus moxostomi* sp. nov. *Zoologica, New York*, **33**, 43–46.

Osaki, Y. & Ishizaki, H. (1941) Myxosporidian parasites of *Tridentiger obscurus* (Temminck et Schlegel). *Journal of*

Science of the Hiroshima University, Ser. B, Div. 1, **9**, 1–12.

Otto, G.R. & Jahn, T.L. (1943) Internal myxosporidian infections of some fishes of the Okoboj region. *Proceedings of the Iowa Academy of Sciences*, **50**, 323–335.

Parenzan, P. (1966) *Myxobolus mugilis* e *Myxobolus branchialis*, due nuovi missosporidi parassiti di *Mugil chelo* dello Jonio. *Bolletino della Societa di Naturaliste in Napoli*, **75**, 3–8.

Parisi, B. (1912) Primo contributo alla distribuzione geografica dei missosporidi in Italia. *Atti della Societa Italiana di Scienze Naturali*, **50**, 283–291.

Parker, J.D., Spall, R.D. & Warner, M.C. (1971) Two new Myxosporidia, *Henneguya gambusi* sp. n. and *Myxosoma pharyngeus* sp. n., in the mosquitofish, *Gambusia affinis* (Baird and Girard). *Journal of Parasitology*, **57**, 1297–1301.

Penido, J.C.N. (1927) Quelques nouvelles myxosporidies parasites des poissons d'eau douce du Brésil. *Comptes Rendus Société Brésilienne de Sciences Naturelles*, **97**, 850–852.

Perugia, A. (1891) Sulle myxosporidie dei pesci marini. *Bolletino Scientifico di Pavia*, **13**, 22–25.

Petruschevski, G.K. (1940) Data on fish parasitology in Karelia. Part II. Fish parasites in Lake Onega. *Uchennye Zapiski Leningradskogo Gosudarstvennogo Pedagogicheskogo Instituta Gercena*, **30**, 133–184 (In Russian).

Pinto, C. (1928) *Myxobolus noguchi*, *M. stokesi* e *Henneguya iheringi*, espécies novas de Myxosporídeos de peixes de água doce do Brasil. *Boletim Biológico*, **12**, 41–43.

Price, R.L. & Mellen, J.W. (1980) *Myxobolus microcystus* sp. n. (Protozoa: Myxosporidia) from the gills of *Micropterus salmoides* (Lacépède 1802) in southern Illinois. *Journal of Parasitology*, **66**, 1019–1021.

Pugachev, O.N. (1980) Parasite fauna of the sucker (*Catostomus catostomus*) from the Kolima River. *Parazitologiya*, **14**, 511–513 (In Russian).

Pugachev, O.N. & Khokhlov, P.P. (1979) Myxosporidia of the genus *Myxobolus* – parasites of the brain and spinal column of salmonid fishes. *In*: Levanidov, V.Ya. *Sistematika i ekologiya ryb kontinentalnyk vodoemov Dalnego Vostoka*. Vladivostok: DVNTS AN SSSR, pp. 137–139 (In Russian).

Qadri, S. (1962) New myxosporidia from Indian freshwater fish, *Labeo fimbriatus*. *Zeitschrift für Parasitenkunde*, **21**, 513–516.

Rajendran, K.V., Vijayan, K.K. & Alavandi, S.V. (1998) Cardiac myxosporidiosis of pearl-spot, *Etroplus suratensis* (Bloch), due to *Myxobolus etropli* sp. nov. *Journal of Fish Diseases*, **21**, 169–176.

Reed, C., Basson, L. & Van As, L.L. (2002) *Myxobolus* species (Myxozoa), parasites of fishes in the Okavango River and Delta, Botswana, including descriptions of two new species. *Folia Parasitologica*, **49**, 81–88.

Reed, C., Basson, L. & Van As, L.L. (2003) Myxozoans infecting the sharptooth catfish, *Clarias gariepinus* in the Okawango River and Delta, Botswana, including descriptions of two new species, *Henneguya samochimensis* sp. n. and *Myxobolus gariepinus* sp. n. *Folia Parasitologica*, **50**, 183–189.

Rice, V.J. & John, T.L. (1943) Myxosporidian parasites from the gills of some fishes of the Okoboji region. *Proceedings of the Iowa Academy of Sciences*, **50**, 313–321.

Salim, K.Y. & Desser, S.S. (2000) Descriptions and phylogenetic systematics of *Myxobolus* spp. from cyprinids in Algonquin Park, Ontario. *Journal of Eukaryotic Microbiology*, **47**, 309–318.

Salinas, F.S., Jiménez-Guzmán, F., Galaviz-Silva, L. & Ramiréz-Bom, E. (1991) *Myxobolus nuevoleonensis* n. sp. (Myxozoa: Myxobolidae) parasite of fishes *Poecilia mexicana* and *P. reticulata* from Rio de la Silla near Monterrey, nuevo Leon, Mexico. *Revista Latino-Americana de Microbiologia*, **33**, 265–269.

Sakiti, N., Blanc, E., Marques, A. & Bouix, G. (1991) Myxosporidies (Myxozoa, Myxosporea) du genre *Myxobolus* Bütschli, 1882 parasites de poissons cichlidae du lac Nokoué au Bénim (Afrique de l'Ouest). *Journal of African Zoology*, **105**, 173–186.

Saraiva, A. & Molnár, K. (1990) *Myxobolus portucalensis* n. sp. in the fins of European eel *Anguilla anguilla* (L.) in Portugal. *Revista Ibérica de Parasitologia*, **50**, 31–35.

Sarkar, N.K. (1982) On three new myxosporidian parasites (Myxozoa) of the ophicephalid fishes of West Bengal, India. *Acta Protozoologica*, **21**, 239–244.

Sarkar, N.K. (1985a) Some coelozoic myxosporidans (Myxozoa: Myxosporea) from a fresh water teleost fish of river Padma. *Acta Protozoologica*, **24**, 47–53.

Sarkar, N.K. (1985b) Some myxosporida (Myxozoa: Myxosporea) of anabantid fishes of West Bengal, India. *Acta Protozoologica*, **24**, 175–180.

Sarkar, N.K. (1986) On two new species of *Myxobolus* Bütschli, 1882 (Myxozoa: Myxosporea) from the fresh water fishes of West Bengal, India. *Acta Protozoologica*, **25**, 235–239.

Sarkar, N.K. (1995) Observations on 2 new Myxosporidia (Myxozoa, Myxosporea) from fishes of Bhery Fishery of West Bengal, India. *Acta Protozoologica*, **34**, 67–70.

Sarkar, N.K., Haldar, B. & Chakraborti, R. (1982) *Myxosoma gangulli* sp. n. (Myxozoa: Myxosomatidae) from the head cartilage of *Sillago maculata* Quoy and Gaimard (Sillaginidae). *Acta Protozoologica*, **21**, 245–249.

Sarkar, N.K., Mazunder, S.K. & Pramanik, A. (1985) Observations on 4 new species of Myxosporidia (Myxozoa) from channid (Ophicephalid) fishes of West Bengal, India. *Archiv für Protistenkunde*, **130**, 289–296.

Schäferna, K. & Jírovec, O. (1931) Über eine neue *Myxobolus*-Art aus dem Zander nebst einingen Bemerkungen über *Henneguya acerinae* (Schröder). *Zeitschrift für Parasitenkunde*, **3**, 148–159.

Schuberg, A. & Schröder, O. (1905) Myxosporidien aus dem Neversystem und der Haut der Bachforelle (*Myxobolus neurobius* n. sp. u. *Henneguya nüsslini* n. sp.). *Archiv für Protistenkunde*, **6**, 47–60.

Schuurmans Stekhoven, J.H. (1920) Myxosporidienstuden. II. Die multiplikative und propagative Entwicklung der Myxosporidien. *Archiv für Protistenkunde*, **41**, 249–307.

Seenappa, D. & Manohar, L. (1980a) Two new species of *Myxobolus* (Myxosporidea: Protozoa) parasitic on *Cirrhina mrigala* (Hamilton) and *Puntius curmuca* (Hamilton). *Current Science*, **49**, 204–206.

Seenappa, D. & Manohar, L. (1980b) *Myxobolus vanivilasae* n. sp. parasitic in *Cirrhina mrigala* (Hamilton). *Proceedings of the Indian Academy of Sciences (Animal Science)*, **89**, 585–491.

Seenappa, D. & Manohar, L. (1981) Five new species of *Myxobolus* (Myxosporea: Protozoa), parasitic in *Cirrhina mrigala* (Hamilton) and *Labeo rohita* (Hamilton), with a note on a new host record for *M. curmucae* Seenappa & Manohar, 1980. *Journal of Protozoology*, **28**, 358–360.

Shaova, N.D. (1969) Myxosporidians from the lower and middle reaches of the Kuban River. *Parazitologiya*, **3**, 92–96 (In Russian).

Shulman, S.S. (1962) Phylum Protozoa. *In*: Bykhovskaya-Pavlovskaya, I.E. et al. (Eds) *Key to parasites of freshwater fishes of the USSR*.[*Keys to fauna of the USSR*, No. 80]. Leningrad: Nauka, pp. 7–151 (In Russian).

Shulman, S.S. (1966) *The myxosporidian fauna of the USSR*. Moscow-Leningrad: Nauka, 504 pp (In Russian).

Shulman, S.S. (1984). Parasitic Protozoa. *In*: Bauer. O.N. (Ed.) *Key to parasites of freshwater fish of the USSR*. Leningrad: Nauka, Vol. 1, 426 pp (In Russian).

Shulman, S.S. & Vikhrova, M.N. (1952) A new interesting species of Myxosporea. *Ucheneye Zapiski Leningradskogo Ordena Lenina Gosudarstevennogo Universiteta*, 141, ser. Biol., **28**, 265–268 (In Russian).

Siau, Y. (1971) Myxosporidies de *Synodontis ansorgii* Bouleng. Ann. et N.H. 1911 et de *Eleotris* (*Kribia*) *kribensis* Boulenger 1964, poissons des eaux saumâtres de la lagune de Porto-Novo (Dahomey). *Bulletin de la Société Zoologique de France*, **96**, 563–570.

Southwell, T. & Pradash, B. (1918) Parasites of Indian fishes, with a note on carcinoma in the climbing perch. II. On some Indian Myxosporidia. *Records of the Indian Museum*, **155**, 344–348.

Spall, R.D. (1974) A new myxosporidan in red and golden shiners. *Journal of Parasitology*, **60**, 169–171.

Srivastava, S.P. (1979) A new species of *Myxobolus* from the scales of *Cirrhinus mrigala* (Hamilton). *Science and Culture*, **45**, 444–445.

Su, X.Q. & White, R.W.G. (1994) New myxosporeans (Myxozoa, Myxosporea) from marine fishes of Tasmania, Australia. *Acta Protozoologica*, **33**, 251–259.

Szidat, L. (1953) Einige neue Arten der Familie Myxobolidae Thélohan (Protozoa, Klass Sporozoa) aus Sussawasserfischen Argentiniens. *Gewasser und Abwasser*, **5**, 7–16.

Thélohan, P. (1892) Observations sur les myxosporidies et essai de classification de ces organismes. *Bulletin de la Société Philomatique de Paris*, **4**, 167–178.

Thélohan, P. (1894) Receherches sur les Myxosporidies. *Bulletin Scientifique de la France et de la Bélgique*, 24, 4e Série, **5**, 100–394.

Tripathi, Y.R. (1952) Studies on parasites of Indian fishes. I. Protozoa Myxosporidia together with a check list of parasitic protozoa described from Indian fishes. *Records of the Indian Museum*, **50**, 63–88.

Upton, S.J., Freed, P.S., Freed, D.A., McAllister, C.T. & Goldberg, S.R. (1992) Testicular myxosporidiasis in the flat-backed toad, *Bufo maculatus* (Amphibia, Bufonidae), from Cameroon, Africa. *Journal of Wildlife Diseases*, **28**, 326–329.

Walliker, D. (1969) Myxosporidea of some brazilian freshwater fishes. *Journal of Parasitology*, **55**, 942–948.

Ward, H.B. (1919) Notes on North American myxosporidia. *Journal of Parasitology*, **6**, 49–64.

Weiser, J. (1949) Parasites of freshwater fish. II. *Vestník Ceskoslovenské Společnosti Zoologické*, **13**, 364–371.

Wold, D. & Iversen, E.S. (1978) *Myxobolus latipinnacola* new species (Myxosporida) from the sailfin molly, *Poecilia latipinna* (LeSueur) in South Florida. *Bulletin of Marine Science*, **28**, 376–380.

Wyatt, E.J. (1979) *Facieplatycauda pratti* gen. n., sp. n. and two new species of *Myxobolus* (Myxosporidia). *Journal of Protozoology*, **26**, 47–51.

Wyatt, E.J. & Pratt, I. (1963) *Myxobolus insidiosus* sp. n., a myxosporidian from the musculature of *Oncorhynchus tshawytscha* (Walbaum). *Journal of Parasitology*, **49**, 951–955.

Wu B.H. (1977) Two new myxosporidian species parasitizing fishes from Hangzhou area. *Journal of Hangzhou University, (Natural Science Edition)* **4**, 97–101 (In Chinese).

Wu B.H., Jiang, N.C. & Wang, S.X. (1985) Six new myxosporean species of freshwater fishes from Zhejiang Province. *Acta Zootaxonomica Sinica*, **10**, 337–340 (In Chinese).

Wu B.H. & Li Z.F. (1986) Six new myxosporean species of freshwater fishes from Zhejiang Province. *Acta Zootaxonomica Sinica*, **11**, 1–9 (In Chinese).

Wu B.H. & Wang S.X. (1982) Three new myxosporean species of *Carassius auratus gibelio* (Block). *Journal of Hangzhou University (Natural Science Edition)*, **9**, 91–94 (In Chinese).

Wu Z.H. & Chen Q.L. (1987) Nine new species of Myxosporidia from freshwater fish of Wuhan lake, Hubei, China. *Acta Hydrobiologica Sinica*, **11**, 161–170 (In Chinese).

Xiao, C. & Desser, S.S. (1997) *Sphaerosphora ovophila* n. sp. and *Myxobolus algonquinensis* n. sp. (Myxozoa, Myxosporea), ovarian parasites of fish from Algonquin Park, Ontario, Canada. *Journal of Eukaryotic Microbiology*, **44**, 157–161.

Yakovchuk, T.A. (1979) A new species of the genus *Myxobolus* (Myxosporidia: Myxobolidae) from the gill filaments of the carp. *Parazitologiya*, **13**, 635–636 (In Russian).

Yasutake, W.T. & Wood, E.M. (1957) Some myxosporidia found in Pacific Northwest salmonids. *Journal of Parasitology*, **43**, 633–642.

Yokohama, H., Ogawa, K. & Wakabayashi, H. (1995) *Myxobolus cultus* n. sp. (Myxosporea, Myxobolidae) in the goldfish *Carassius auratus* transformed from the actinosporean stage in the oligochaete *Branchiura sowerbyi*. *Journal of Parasitology*, **81**, 446–451.

Yoshino, T.P. & Noble, E.R. (1973) Myxosporida of macrourid fishes from Southern California and Mexico. *Journal of Parasitology*, **59**, 844–850.

Yukhimenko, S.S. (1986) New species of Myxosporidia of the genus *Myxobolus* (Myxosporidia: Myxobolidae) from Cyprinidae of the Amur River. *Parazitologiya*, **20**, 416–421 (In Russian).

Zhao Y.J. & Ma C.L. (1994) Description of new myxosporidia species parasitic in fresh-water fishes from the west region of China. *Acta Zootaxonomica Sinica*, **19**, 257–267 (In Chinese).