

Dariusz Romuk-Wodoracki

Parasitology

MYXOBILATUS GASTEROSTEI (Parisi, 1912) THE MYXOSPORIDIA
SPECIES NEW FOR POLAND

MYXOBILATUS GASTEROSTEI (Parisi, 1912) NOWY DLA POLSKI
GATUNEK MYXOSPORIDIA

University of Szczecin
Department of Parasitology and Environmental Protection

In 1988, for the first time in Poland, presence of the sporezoan *Myxobilatus gasterostei* (Parisi, 1912) in the stickleback's (*Gasterosteus aculeatus* L., 1758) kidney was noted.

INTRODUCTION

Sporozoans representing the *Myxobilatus gasterostei* species were found in the renal tissue of sticklebacks (*Gasterosteus aculeatus* L.) caught in June, 1988, in Dziwna River (a side stream of Szczecinski Firsth). Spores were being observed immediately after smears were done. Measures and figures were done from unstained preparations, submerged in glycerogelatine.

RESULTS AND DISSCUSSION

25 fishes, 2.0 to 7.5 cm long, were tested. *Myxobilatus gasterostei* spores were noted in 3 individuals – 2 cm long (invasion intensity beings 12%). Numerous spores were

observed in the kidneys only, with no spores within the urinary bladder and urinary tracts noted. Spores are elongated, symmetrical along a joint plane, slightly narrowed towards its anterior end (Fig. 1); slightly flattened and asymmetric in a lateral plane. Spore appendixes of equal length, long and thin with ends slightly bend aside. Along symmetrical axis of spore there is a subtle, slightly visible striation.

Both spore capsules are of equal size, large elongated, slightly narrowed towards anterior edges.

General scheme of structure and relations between the basic elements of spores agree with the Shulman description (1984). However, spores of *M. gasterostei* isolated that time had visibly smaller sizes. Variability in spore sizes confirmed by the other authors

Table 1

Comparison of sizes of *Myxobolus gasterostei* spores presented by various authors (after Arthur and Margolis, 1975; with changes) (in μm)

Specification	Source of information			
	Parisi (1912)	Shulman (1966, 1984)	Arthur a. Margolis (1975)	Present work
total length of spore	38–48	33–48	$\frac{23.2-46.4}{\bar{x} 32.2}$	$\frac{22.0-33.5}{\bar{x} 28.1}$
length of spore	15	11–16	$\frac{8.8-13.1}{\bar{x} 11.5}$	$\frac{10.0-12.0}{\bar{x} 11.1}$
length of spore appendixes	–	20–25	$\frac{11.2-34.0}{\bar{x} 22.6}$	$\frac{11.5-23.0}{\bar{x} 17.0}$
width of spore	–	5.6–6.5	$\frac{4.0-6.1}{\bar{x} 5.1}$	$\frac{4.2-5.0}{\bar{x} 4.6}$
thickness of spore	6.0–7.5	6.5–7.6	$\frac{4.5-6.7}{\bar{x} 5.2}$	$\frac{4.0-4.2}{\bar{x} 4.1}$
length of polar capsules	7.5–9.0	5.8–9.0	$\frac{5.6-7.7}{\bar{x} 6.5}$	$\frac{5.0-6.5}{\bar{x} 5.9}$
diameter of polar capsules	3.0–3.5	2.0–2.5	$\frac{1.8-3.0}{\bar{x} 2.3}$	$\frac{1.5-2.3}{\bar{x} 1.9}$
host	<i>G. aculeatus</i>	<i>G. aculeatus</i> <i>Pungitius pungitius</i>	<i>G. aculeatus</i>	<i>G. aculeatus</i>
environment	Lago di Garda, Italia	various places USSR	British Columbia, Canada	Szczeciński Firth, Poland

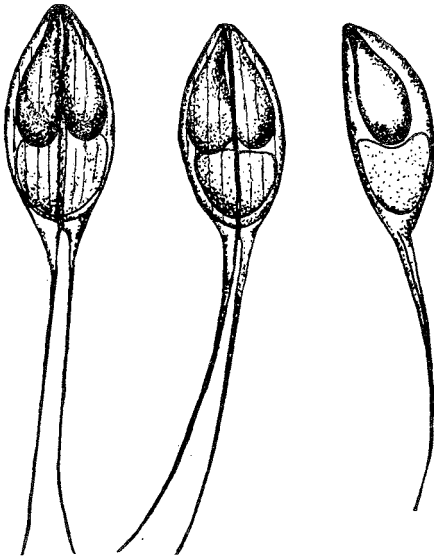


Fig. 1. Spore *Myxobilatus gasterostei* (Parisi, 1912)

(Table 1) can be due to many factors: Among the main ones are wide geographical distribution of the host (waters and basins of northern part of Atlantic Ocean and Pacific Ocean), host species, environmental conditions (saline, brackish and fresh waters) and even method of staining and fixation.

REFERENCES

- Arthur J.R., L. Margolis, 1975: Two species of *Myxobilatus* (Myxosporida: Myxobolidae) from freshwater fishes of western Canada, with description of *M. yukonesis* sp. nov. — *Can. J. Zool.*, 53: 1663–1668.
- Parisi B., 1912: Primo contributo alla distribuzione geografica dei missosporidi in Italia. — *Atti Soc. Ital. Sc. Nat. Mus. Civ. Stor. Nat. Milano*, 50: 283–299.
- Shulman S.S., 1966: *Mikrosporidii fauny SSSR* — Izd. „Nauka” Moskva — Leningrad.
- Shulman S.S., (Red.), 1984: *Opređitel parazitov presnovodnykh ryb fauny SSSR. I. Paraziticheskie prostejšie*. — Izd. A.N. SSSR, Leningrad. (in Russian)

Translated Dr. E. Dączkowska-Kozon

Dariusz Romuk-Wodoracki

MYXOBILATUS GASTEROSTEI (PARISI, 1912), NOWY DLA POLSKI
GATUNEK MYXOSPORIDIA

STRESZCZENIE

W nerce ciernika *G. aculaeatus* z rzeki Dziwna stwierdzono dotychczas nie notowany w Polsce gatunek sporowca *Myxobilatus gasterostei* (Parisi, 1912). Intensywność inwazji wynosiła 12%. Wymieniony gatunek nie różnił się cechami morfologicznymi od dotychczas opisywanych w literaturze z wyjątkiem zmniejszonych wymiarów.

Author's address:

Mgr inż. Dariusz Romuk-Wodoracki
Uniwersytet Szczeciński
Zakład Parazytologii i Ochrony Środowiska
ul. Felczaka 3
71-412 Szczecin
Polska (Poland)

Received: 1988.12.16