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Lauterbornia 40: 39-41, D-86424 Dinkelscherben, 2001-02-28

The zoobenthos of the Koprinka reservoir, Central Bulgaria

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With 1 Table

Schlagwörter: Nematoda, Oligochaeta, Chironomidae, Diptera, Insecta, Koprinka See, Bulgarien, Stausee, Faunistik
Keywords: Nematoda, Oligochaeta, Chironomidae, Diptera, Insecta, Koprinka lake, Bulgaria, reservoir, faunistics

The study gives recent information on the zoobenthos of the Koprinka reservoir. For the first time data are reported on Nematoda. In total 22 benthic taxa were found: 9 nematodes, 3 oligochaets and 10 chironomids.

1 Short description of the lake

The Koprinka reservoir is located in the Kazanlak Valley, 7 km west of the town of Kazanlak and 35 km northwest of Stara Zagora. During the first years of exploitation additional hydro-technical equipment was installed by which the water level of the reservoir was raised 4-5 m, and the water surface increased from 8 400 000 to about 11 000 000 m²; the volume now is 138 084 000 m³. (DIMITROV & LYUDSKANOVA 1967). The lowest level of the reservoir is 356 m above sea lavel, the maximum is 391 m. The maximum depth near the impounding dam 35 m. Koprinka reservoir has three branches - Koprinski, Dunavski and Gyurlya, oriented on a north-south axis.

Previous data on the zoobenthos of the reservoir were given by DIMITROV (1960) and DIMITROV & LYUDSKANOVA (1967).

2 Material and methods

The zoobenthic material was collected by the author in May, July, August, September and December 1995-2000 using a Birge-Eckman bottom sampler. The samples were rinsed on sieves, mesh width 500 μm and 150 μm. To get the nematodes extended, they were heated up to 60 °C in a water basin and then fixed in 4 % formaline solution; preparation and identification according to GAGARIN (1981) on the basis of the formula of DE MAN (1886). For identifying the Chironomidae larvae we followed PANKRATOVA (1970, 1977, 1983).

The samples were collected from 6 sites in the reservoir: 1. East; 2. Middle; 3. West; 4. Koprinski Rakav; 5. Dunavski Rakav; 6. Rakav Gyurlya.

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The boecenotic analysis (frequency of occurrence pF %, frequency of dominance DF % , and range of dominance Dt %) was made by the method of DE VRIES (1937).

Tab. 1: Species composition and dominance analysis of the zoobenthos of Koprinka reservoir

	Sites						Dominance analysis		
	1	2	3	4	5	6	pF %	DF %	Dt %
NEMATODA									
Dorylaimus stagnalis DUJARDIN	x	x	x	x	x	x	92.0	76.0	82.6
Monhystera stagnalis BASTIAN					x	x	16.0		
Aphanolaimus aquaticus DE DAY						x	4.0		
Enoploides fluviatilis MICOLETZKY		x			x		8.0		
Enoploides sp.				x			4.0		
Tripyla glomerans BASTIAN		x	x		x	x	68.0	56.0	82.3
Tripyla sp.					x		4.0		
Tobrilus gracilis (BASTIAN)	x		x	x	x		80.0	4.0	5.0
Rhabditida CHITWOOD									
Diplogasteridae MIKOLETZKY									
Paraigolaimella anomala GAGARIN						x	4.0		
OLIGOCHAETA									
Limnodrilus hoffmeisteri CLAPAREDE					x	x	8.0		
Limnodrilus claparedeanus ROTZEL					x		4.0		
DIPTERA: CHIRONOMIDAE									
Chironomus gr. plumosus KIEFFER	x	x	x	x	x	x	96.0	88.0	91.6
Chironomus sp.					x		4.0		
Chironomus riparius MEIGEN			x	x		x	32.0	4.0	12.5
Cryptochironomus gr. defectus KIEFFER	x		x		x	x	60.0	8.0	13.0
Cryptochironomus sp.					x		4.0		
Crycotopus gr. sylvestris (FABRICIUS)			x	x	x		56.0	14.0	7.1
Cricotopus sylvestris (FABRICIUS)				x	x		12.0	4.0	33.3
Polypedilum gr. nubeculosum (MEIGEN)						x	8.0		
Tanytarsus gr. gregarius KIEFFER		x		x	x		20.0	8.0	40.0
Tanytarsus mancus WALKER			x				4.0		
Limnophyes gr. prolongatus KIEFFER					x		4.0		

3 Species composition and dominance analysis (Tab. 1)

Dorylaimus stagnalis and *Chironomus* gr. plumosus were found in the whole reservoir. Beside the species of high pF % and high Dt % values (*Dorylaimus stagnalis, Chironomus* gr. *plumosus* and T*ripyla glomerans*), species with high presence frequency and low values of the range of dominance (*Cricotopus* gr. *sylvestris*, *Cryptochironomus* gr. *defectus, Tobrilus gracilis*) were found. The chironomids *Cricotopus sylvestris* and *Tanytarsus* gr. *gregarius* are of low frequency, but of higher importance as dominants.

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Acknowledgements

I like to thank Vera Staykova for her help in collecting the material, and Nikolai Chernev for technical support.

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Received: 2000-09-23

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: Lauterbornia

Jahr/Year: 2001

Band/Volume: 2001_40

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Artikel/Article: The zoobenthos of the Koprinka reservoir, Central Bulgaria. 39-41