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Hydrofaunistic investigations of the Karla Lake, Central Greece

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With 2 tables

Schlagwörter: Zooplankton, Zoobenthos, Karla See, Griechenland, See, Faunistik

For the first time, a short hydrofaunistic research of Karla Lake, Central Greece, was carried out, 22 zooplankton and 27 zoobenthos species were found. Information on frequency and dominance is given.

1 Description of the lake and the material

The Karla Lake is situated in the South-East part of the Thessalia plain, about 20 km North-West of the town of Volos. The lake is at an altitude of about 44-65 m and is connected with the Aegean Sea through sinkholes as a result of the Karst erosion. It is a remainder of a previous lake, several times larger. The present lake has a surface of some 500 ha and a maximum depth of 2,4 m. The bottom is covered by sand and sludge, large parts by submerged weed.

Samples were collected in November and December 1997 and April 1998. Six sites were examined: 1. in the north-western part of the lake, 2. along the western shore, 3. in the south-western part, 4. in the central part; 5. in the south-eastern part, 6. in the north-eastern part. The dominance analysis was carried out (frequency of occurrence pF, frequency of dominance DF and range of dominance Dt, in %) following the method of De Vries (1937; after Kozhova 1970).

2 Species composition and dominance analysis

Zooplankton: The composition of the zooplankton (Tab. 1) consists of 8 Rotatoria, 8 Cladocera and 6 Copepoda species. Among the Rotatoria *Brachionus caliciflorus* and *Brachionus quadridentatus* occured frequently and are dominant in most of the samples. *Alona rectangula* is a rather rare species, but sometimes it appears as dominant. In particular, *Moina macrocopa* is not frequent, but it appears as an absolute dominant, which is a feature of its mosaic distribution. Copepodids and nauplii are constantly present in high density.

Zoobenthos: The Oligochaeta *Tubifex tubifex* and *Limnodrilus udekemianus* are very frequent, but of lower importance as dominants. Relatively frequent and also important as dominants are the Chironomidae species *Chironomus plumosus* and *Cricotopus sylvestris*. However, *Endochironomus tendens* and *Microcricotopus bicolor* are relatively rare, but dominant when occurring.

The species composition of both communities is typical for a lake with an advanced degree of eutrophication, and is very similar to other warwe bodies on the Balkan Peninsula, well investigated by Stoichev (1996a, 1996b, 1998), Naidenow (1998) and Kovachev & Stoichev (1999).

Tab 1: The zooplankton of the Karla lake

	SITES						DOMINANCE		
	1	2	3	4	5	6	pF %	dF %	DT %
ROTATORIA									
Brachionus calyciflorus Pallas	X	X	X	X	X	X	55	50	91
Brachionus quadridentatus Hermann	X	X	X	X	X	X	72	46	64
Brachionus urceolaris O. F. Müller	X	X	X		X	X	27		
Brachionus urceolaris rubens Ehrenberg				X	X		11		
Brachionus plicatilis (Müller)					X	X	17		
Asplanchna priodonta Gosse	X		X	X	X		22		
Asplanchna girodi (De Guerne)			X		X	X	17		
Euchlanis triquetra Ehrenberg			X	X	X		17		
CLADOCERA									
Alona intermedia Sars	X	X		X	X		27		
Alona rectangula Sars	X	X					11	5	45
Daphnia pulex Leydig				X	X	X	22		
Moina macrocopa (Straus)			X	X	X	X	33	33	100
Bosmina longirostris O. F. Müller		X			X		17		
Simocephalus vetulus (O. F. Müller)	X						6		
Macrothrix hirsuticornis Norman & Brady					X		6		
Chydorus sphaericus (O. F. Müller)	X						8		
COPEPODA									
Eucyclops serrulatus (Fischer)				X	X	X	27		
Cyclops strenuus Fischer			X	X	X		17		
Cyclops vicinus Uljanin					X	X	17		
Megacyclops viridis (Jurine)			X	X	X	X	39		
Paracyclops fimbriatus (Fischer)					X	X	6		
Paracyclops affinis Sars						X	6		
Copepodids	X	X	X	X	X	X	100	61	61
Nauplii	X	X	X	X	X	X	100	61	61

Tab 2: The zoobenthos of the Karla lake

	SITES						DOMINANCE		
	1	2	3	4	5	6	pF %	dF %	DT %
NEMATODA									
Dorylaimus stagnalis Dujardin	X		X		X		75	42	56
Laimidorus flavomaculatus (Linstow)	X				X	X	50	8	16
OLIGOCHAETA									
Tubifex tubifex (O. F. Müller)	X	X	X	X	X	X	100	17	17
Limnodrilus udekemianus Claparede	X	X		X	X	X	83	17	20
Stylaria lacustris (Linnaeus)	X	X		X			50	8	16
HIRUDINEA									
Haementeria costata (Fr. Müller)	X						8		
Erpobdella octoculata (Linnaeus)	X						8		
ISOPODA									
Asellus aquaticus (Linnaeus)	X			X			17		
EPHEMEROPTERA									
Caenis horaria (Linnaeus)	X						8		
ODONATA									
Calopteryx virgo (Linnaeus)				X			17		
Ischnura pumilio (Charpentier)				X	X		25		
HETEROPTERA									
Plea leachi Mac Gregorb & Kirkaldy				X			17		
COLEOPTERA									
Aulonogyrus concinnus (Klug)			X	X			17		
CHIRONOMIDAE									
Tanypus punctipennis Meigen	X	X					17		
Cricotopus algarum (Kieffer)			X	X			25		
Cricotopus bicinctus (Meigen)		X	X				17		
Cricotopus sylvestris (Fabricius)	X		X	X	X	X	58	42	72

	SITES						DOMINANCE		
	1	2	3	4	5	6	pF %	dF %	DT %
Endochironomus tendens (FABRICIUS)		X	X				17	8	47
Nanocladius bicolor (ZETTERSTEDT)				X			8	8	100
Polypedilum nubeculosum (MEIGEN)	X	X		X			33	17	52
Dicrotendipes nervosus (STAEGER)					X		8		
Chironomus plumosus (LINNAEUS)	X	X	X		X	X	75	42	56
Chironomus riparius MEIGEN						X	17		
Cryptochironomus defectus (KIEFFER)						X	17		
Chironomus sp.						X	17		
STRATIOMYIDAE									
Nemotelus sp.		X	X		X		25		
Oxycera sp.		X	X		X		25		

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