

Lauterbornia 36: 71-73, D-86424 Dinkelscherben, August 1999

Hydrofaunistic investigations of the Karla Lake, Central Greece

Stanoy Kovachev and Stefan Stoichev

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* occurred frequently and are dominant in most of the samples. *Alona rectangularis* 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), NAIDENOV (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									
<i>Brachionus calyciflorus</i> PALLAS	X	X	X	X	X	X	55	50	91
<i>Brachionus quadridentatus</i> HERMANN	X	X	X	X	X	X	72	46	64
<i>Brachionus urceolaris</i> O. F. MÜLLER	X	X	X			X	27		
<i>Brachionus urceolaris rubens</i> EHRENBERG				X	X		11		
<i>Brachionus plicatilis</i> (MÜLLER)					X	X	17		
<i>Asplanchna priodonta</i> GOSSE	X		X	X	X		22		
<i>Asplanchna girodi</i> (DE GUERNE)			X	X	X	X	17		
<i>Euchlanis triquetra</i> EHRENBERG			X	X	X		17		
CLADOCERA									
<i>Alona intermedia</i> SARS	X	X		X	X		27		
<i>Alona rectangula</i> SARS	X	X					11	5	45
<i>Daphnia pulex</i> LEYDIG				X	X	X	22		
<i>Moina macrocopa</i> (STRAUS)			X	X	X	X	33	33	100
<i>Bosmina longirostris</i> O. F. MÜLLER		X			X		17		
<i>Simocephalus vetulus</i> (O. F. MÜLLER)	X						6		
<i>Macrothrix hirsulicornis</i> NORMAN & BRADY					X		6		
<i>Chydorus sphaericus</i> (O. F. MÜLLER)	X						8		
COPEPODA									
<i>Eucyclops serrulatus</i> (FISCHER)				X	X	X	27		
<i>Cyclops strenuus</i> FISCHER			X	X	X		17		
<i>Cyclops vicinus</i> ULJANIN					X	X	17		
<i>Megacyclops viridis</i> (JURINE)			X	X	X	X	39		
<i>Paracyclops fimbriatus</i> (FISCHER)					X	X	6		
<i>Paracyclops affinis</i> 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									
<i>Dorylaimus stagnalis</i> DUJARDIN	X		X		X		75	42	56
<i>Laimidorus flavomaculatus</i> (LINNSTOW)	X				X	X	50	8	16
OLIGOCHAETA									
<i>Tubifex tubifex</i> (O. F. MÜLLER)	X	X	X	X	X	X	100	17	17
<i>Limnodrilus udekemianus</i> CLAPAREDE	X	X		X	X	X	83	17	20
<i>Stylaria lacustris</i> (LINNAEUS)	X	X		X			50	8	16
HIRUDINEA									
<i>Haementeria costata</i> (FR. MÜLLER)	X						8		
<i>Erpobdella octoculata</i> (LINNAEUS)	X						8		
ISOPODA									
<i>Asellus aquaticus</i> (LINNAEUS)	X			X			17		
EPHEMEROPTERA									
<i>Caenis horaria</i> (LINNAEUS)	X						8		
ODONATA									
<i>Calopteryx virgo</i> (LINNAEUS)				X			17		
<i>Ischnura pumilio</i> (CHARPENTIER)				X	X		25		
HETEROPTERA									
<i>Plea leachi</i> MAC GREGOR & KIRKALDY				X			17		
COLEOPTERA									
<i>Aulonogyryus concinnus</i> (KLUG)			X	X			17		
CHIRONOMIDAE									
<i>Tanytus punctipennis</i> Meigen	X	X					17		
<i>Cricotopus algarum</i> (KIEFFER)			X	X			25		
<i>Cricotopus bicinctus</i> (MEIGEN)		X	X				17		
<i>Cricotopus sylvestris</i> (FABRICIUS)	X		X	X	X	X	58	42	72

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

Acknowledgements

Samples were collected by Mr. Yoannis Vergos, now postgraduate student at the Aegean University, Lesbos, during his hydrobiological specialization at the Sofia University "St. Kliment Okhridski" Technical support was provided by Nikolai Chernev.

References

- DE VRIES, M. (1937): Methods used in plant sociology and agricultural botanical grassland research.- *Herbage reviews* 5: 76-82, Aberystwyth
- KOVACHEV, S. & S. STOICHEV (1999): The zoobenthos of several lakes along the Northern Bulgarian Black Sea Coast.- *Lauterbornia* 35: 33-38, Dinkelscherben
- KOZHOVA, O. (1970): Formation of the phytoplankton in the Bratsk water reservoir.- In: Formation of the natural conditions and life in the Bratsk water reservoir: 26-160, Moscow (Nauka) (in Russian)
- NAIDENOV, W. (1998): Struktur und horizontale Verteilung des Zooplanktons in zwei Strandseen auf der westlichen Küste des Schwarzen Meeres (Schabla und Eseretz). -In: GOLEMANSKY, V. G. & W. T. NAIDENOV (eds.): Biodiversity of the Shabla lake system: 51-69, Sofia
- STOICHEV, S. (1996a): On the free-living nematode fauna from Bulgarian inland waters.- *Lauterbornia* 25: 22-30, Dinkelscherben
- STOICHEV, S. (1996b): On the nematode fauna (Nematoda, Nematelminthes) from the Bulgarian stretch of the Danube River. Dominant analysis and distribution of the nematods in biotops.- *Hydrobiologia* 40: 65-70, Sofia
- STOICHEV, S. (1998): The Zoobenthos from the Lakes Shabla-Ezerets (Northern Black sea coast).- In: GOLEMANSKY, V. G. & W. T. NAIDENOV (eds.): Biodiversity of the Shabla lake system: 91-101, Sofia

Anschrift der Autoren: Assoc. Prof. Dr. Stanoy Kovachev, Sofia University, Biological Faculty, Boul. Dragan Tsankov 8, Bg-1421 Sofia; Dr. Stefan Stoichev, Bulgarian Academy of Sciences, Institute of zoology, Boul. Tsar Osvoboditel 1, BG-1000 Sofia, Bulgaria

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Lauterbornia](#)

Jahr/Year: 1999

Band/Volume: [1999_36](#)

Autor(en)/Author(s): Kovachev Stanoy, Stoichev Stefan

Artikel/Article: [Hydrofaunistic investigations of the Karla Lake, Central Greece. 71-73](#)