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On the Chironomid Fauna from Blagoevgradska Bistritsa River (Rila Mountain, Southwest Bulgaria)

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With 1 Table

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Schlagwörter: Chironomidae, Bistritsa, Struma, Bulgarien, Fluss, Faunistik

The present study gives new information about the Chironomids (23 species) along the waterflow of Blagoevgradska Bistritsa River, their distribution, frequency of occurrence and dominance

1 Description of the Bistritsa river and previous studies

Blagoevgradska Bistritsa River begins in the Rila Mountains, from the southern slopes of Goliam Mechi Vrah (2618 m.). It also gathers its waters from the northern slopes of Ravnik peak (2412 m.). The upper flow has a highly afforested catchment area, mainly coniferous turning to dwarf pine. The slopes from the village Bistritsa downwards are denuded and erosive. The river bed in the upper flow is constant, rocky or covered with coarse gravel and big stone blocks. In the middle and the lower flow the bed meanders through the valley and is filled with fine deposits coming from the denuded slopes. The river forms an impressive alluvial cone, 300 to 400 m large, at its influx in the Struma river. Information on chironomids from the waterflow of the river are given by NACHEV (1983). Information on chironomids from glacial ecosystems in Bulgaria are given by VALKANOV (1938), YANEV (1973) and STOICHEV (1996, 2000a and 2000b). The present study does not confirm all species found by NACHEV (1983). Outdated names for some of the species in the above study require an update in the present study.

2 Sampling sites and material

The chironomid material was collected by S. Stoichev, M. Kirilova and N. Chernev during May, July and October 1999. The following stations were visited along the Bistritsa river: 1. Springs of Blagoevgradska Bistritsa river. 2. Below Macedonia chalet. 3. Parangalitsa biosphere reserve 4. Above Haidushka River influx. 5. Below Haidushka River influx. 6. B.A.Sc. residence. 7. Below Bistritsa village. 8. Above Blagoevgrad. 9. Below Blagoevgrad. 10. Mouth of Blagoevgradska Bistritsa River in the Strouma River.

The analysis of dominant quantitative presence (frequency of occurence pF, frequency of dominance DF, range of dominance Dt in %) was made by the method of DE VRIES (1937).

3 Species composition, frequency of occurrence and dominance analysis

Totally 23 chironomid species were found in Blagoevgradska Bistritsa River.

Tab. 1 Chironomidae found in Blagoevgradska Bistritsa River

Taxa	Station	pF %	dF %	Dt %
Brillia modesta (MEIGEN)	3	3.3		
Chironomus riparius MEIGEN	1-3, 5-10	83.5	66.6	79.9
Cricotopus gr. sylvestris FABRICIUS	1-3, 7-10	40.0	33.3	83.2
C. gr. algarum (KIEFFER)	3-5	10.0		
C. alpestris GOETGHEBUER	1-8	6.6		
Cryptochironomus gr. defectus KIEFFER	1-4	76.6	70.0	91.3
Demicryptochironomus vulneratus (ZETTERSTEDT)	5	13.3	3.3	24.8
Demicryptochironomus sp.	4	3.3		
Dicrotendipes gr. nervosus (STEIGER)	3-5	20.0	10.0	50.0
Diamesa insignipes KIEFFER	6	3.3		
Eukiefferiella brevicalcar (KIEFFER)	5	6.6		
Eukiefferiella clypeata KIEFFER	6	3.3		
Eukiefferiella cf. similis GOETGHEBUER	8	30.0	16.6	55.3
E. quadridentata TSCHERNOVSKIJ (s. PANKRATOVA 1970)	3, 6	23.3		
Eukiefferiella sp.	4	3.3		
Glyptotendipes polytomus KIEFFER	4-6	13.3	3.3	25.3
Polypedilum gr. scalaenus (TSCHERNOVSKIJ)	2	10.0		
Prodiamesa olivacea (MEIGEN)	9	3.3		
Synorthocladius nudipennis (KIEFFER)	7	6.6		
S. semivirens (KIEFFER)	5	3.3		
Tanytarsus gregarius KIEFFER	1-5, 7-10	73.3	3.3	4.50
Tvetenia gr. calvescens (EDWARDS)	5-7	43.3	3.3	7.62
T. bavarica (GOETGHEBUER)	8	6.6		

Tanytarsus gregarius and *Tvetenia* gr. *calvescens* are very frequent but their dominance ratios are of lower value. Relatively frequent and also important as dominants are *Chironomus riparius* and *Cryptochironomus* gr. *defectus*. However, *Demicryptochironomus vulneratus* and *Dicrotendipes* gr. *nervosus* are relatively rare, but dominant when occurring, and based on these data we could suggest that they are stenobiontic. Their frequency of occurrence is higher only within narrow amplitude changes in the environmental parameters.

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