



## **ALGOFLORA OF RIVER ZHEGRA DURING SPRING SEASON 2009**

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- **Abstract**

- The aim of this investigation was to investigate the algal flora and according to the algae bioindicators to evaluate the level of pollution of water of river Zhegra, during the spring season, 2009 in river Zhegra, nearby Gjilani City.
- The determined taxa of the Zhegra river are 83 species of algae, belonging to 4 divisions, were found. By their abundance, the algae from the divisions Bacillariophyta and Cyanophyta predominated in all localities of the longitudinal profile of the river and by their relative occurrence. Bacillariophyta 51 taxa, Cyanophyta 12 taxa, Euglenophyta 7 taxa and Chlorophyta 13 taxa.

- **Introduction**

- In recent years the aquatic ecosystems from Kosovo have undergone great changes that led to the essential disturbance in biocenosis structure, the balance of the nutritive elements, the decrease of bioproductivity and the worsening of the water quality (Obuh et al., 2006). These changes take place due to the intensification of human activity, which results in considerable increase in the amount of biogenic substances that fall into water from the polluted air, fertilized soil, domestic and industrial wastewater.

- **MATERIAL AND METHODS**
- The samples were collected at 5 sampling stations along the river Zhegra in the winter of 2012. Water samples were collected in 500 ml glass bottles, 10 cm beneath the water surface, using standard methods . Conductivity, pH, salts, TDS (Total Dissolved Salts), were measured in situ using mobile instruments (HACH), O<sub>2</sub> were measured with mobile instrument such as oxygenometer (Hana Instrument) and nutrients (N, P , Si ) were analysed by standard methods.

- Epilithon brushed from the stones with toothbrush and the upper layer of epipelton was pipetted off with a vacuum suction system. Epiphyton sampled with the substrate and palced in the plastic bottles .The algae examined using a Leica microscope, with a digital camera Fujifilm, which filmed the algae directly from the sample.

## RESULTS AND DISCUSSION

This algal study is a contribution to the knowledge of algal flora of the river Zhegra. The results of this study are presents in **Table 1**, total number of identified taxa is 83

Cyanophyta 12,  
Bacillariophyta 51,  
Euglenophyta 7,  
Chlorophyta 13

division **Bacillariophyta** is represented through its highest number of species(51) and genus(23 genus), among which the genus Nitzschia with 11 species, Navicula 6, dominate

- The filum **Cyanophyta** is represents with 12 taxa( in 10 genus), where only genus *Oscillatoria* has 2 species , while other genus are represents by 1 taxa,
- Division **Chlorophyta** is represented by 7 gender, with dominating gender *Cladophora* with 4 taxa.

- Filum **Euglenophyta** is represented by 3 gender with dominating genus: Euglena(3 taxa), while Phacus and Trachelomonas with 2 species.
- Registered 31 **bioindicators** species, where dominate the bioindicators species which belongs to
- **betamesosaprobic** level of saprobity (15 taxa), followed by **oligosaprob** and **oligo- betamesosaprob** bioindicators- 6 taxa,, **xeno-oligo saprob** bioindicators 3 taxa, **xenosaprob** bioindicators- 1 species.



Tab.1 Algal determination during spring season 2009 in river Zhegra.

			<i>LOCALITIES</i>				
	<i>Division CYANOPHYTA</i>	<i>Level of Saprobity</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>8</i> <i>1</i>	<i>Total number of algae</i>						
	<i>Division CYANOPHYTA</i>						
<i>1</i>	<i>Anabaena plantonica Brunnth.</i>		<i>1</i>		<i>1</i>		<i>1</i>
<i>2</i>	<i>Chroococcus varius Al.Br.</i>					<i>1</i>	<i>1</i>
<i>3</i>	<i>Dactylococcopsis acicularis Lemm</i>			<i>1</i>			
<i>4</i>	<i>Gloetrichia echinulata (G.S.Smith).P.Richt.</i>	$\beta$			<i>1</i>		
<i>5</i>	<i>Microcystis grevillei f.grevillei (Hass)Elenk.</i>			<i>1</i>			<i>1</i>

	<b>Division BACILLARIOPHYTA</b>						
1	<i>Achnanthes hungarica</i> (Grunow) Grunow	<i>o</i>	1		1		
2	<i>Achnanthidium minutissimum</i> (Kütz.)Czarneck		1		1	1	
3	<i>Amphora lybica</i> Ehrenberg		1	1			1
4	<i>A. normani</i> Rabenhorst	<i>o</i>	1		3		1
5	<i>Aneumastus stroesei</i> (Ostrup) Mann			1			
6	<i>Cocconeis pediculus</i> Ehrenberg	<i>o-β</i>		1		3	1
7	<i>C. placentula</i> var. <i>lineata</i> (Ehrenberg) Cleve		3	1	1	3	

- **Conclusions:**

- On the basis of algoflora analysis of the river Zhegra, we can conclude:
  - -Higher diversity of algae in spring season.
  - -During the study period (spring season 2009) we identified 83 algal species.
  - - Dominate diatoma with 51 species.
  - -Determined 31 bioindicators species
  - -Dominate the betamesosaprob species (15 species).

- Thank you for attention