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OF THE REPUBLIC OF MACEDONIA
WITH INTERNATIONAL PARTICIPATION**

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I. Конгрес на еколозите на Македонија со меѓународно учество (5 ; 2016 ; Охрид) види Congress of ecologists of the Republic of Macedonia with international participation (5 ; 2016 ; Ohrid)

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The impact of trout farm effluent on diatoms richness in the Rasina river (Serbia)

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The Rasina River is right tributary of the Zapadna Morava River, situated in central Serbia. The samples were collected in spring (April), summer (July) and autumn 2011, from 6 localities along the river at an altitudes between 640 – 704 m a.s.l. Sampling sites are located before and after trout pond. Epilithic samples were scraped from the surface of stones by brush. Light microscope observations and micrographs were made using a Zeiss AxioImagerM.1 microscope with DIC optics and AxioVision 4.8 software. At least 400 valves were counted in order to calculate relative abundance (%) of each taxon. The biological assessment of water quality was performed calculating diatom indices by OMNIDIA 5.3 software.

A total of 166 taxa belonging to 45 genera were identified in the studied samples. The most numerous were taxa of genus: *Nitzschia* (26), *Navicula* (22) and *Gomphonema* (15). The dominant taxa during spring were *Achnanthydium pyrenaicum* and *Diatoma ehrenbergii*, during summer were *A. pyrenaicum* and *Cocconeis placentula* var. *lineata* and during autumn was only *C. placentula* var. *lineata*. Diatom richness before trout farm was higher than after, which confirms its impact. The highest diversity was in spring and constantly decreasing through seasons.

The Rasina River was characterized by good to very good ecological status of water, with slightly differences between the values of the diatom indices during the seasons (spring, summer, autumn, respectively).

Fish feed remains can cause enrichment of the water with nutrients (in the form of ammonia, phosphorus, nitrogen) and most often leads to eutrophication which can be seen on the basis of the dominant species during the seasons. Change of dominant species between the seasons in the Rasina River was correlated with the values of nutrients.

Keywords: *Achnanthydium pyrenaicum*, *Diatoma ehrenbergii*, *Cocconeis placentula* var. *lineata*, diatom indices, nutrients.