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Ecological study of the diatoms in Chehel Chay River in Golestan province

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Abstract

Diatoms are a group of algae, identifiable under the light microscope by their yellow-brown coloration and by presence of a thick silica wall. These organisms have particular ecologic preferences and tolerances, which make them useful indicators for ecological conditions, and nowadays are used in water quality issues extensively. Chehel Chay River is one of main tributaries of Gorgan Rud. In this survey, epilithic and epipelic diatoms of this river were studied. Sampling was done seasonally from 5 stations on river during 2016. Along with diatom samples, physic-chemical parameters of water were analysed. In total, 32 species belongs to 18 genera were identified. The biggest genera according to species number were *Nitzschia* with 5 species and *Gomphonema* with 4 species. Dominant species in epipelic samples were *Cymbella affinis, Navicula tripunctata, Nitzschia dissipata* and *Rhoicosphenia abbreviate* and in epilithic samples: *Achnanthidium gracillimum, Cymbella affinis, Diatoma moniliformis* and *Navicula tripunctata.* In this study, pH, phosphate, temperature, nitrate, ammonium, silica, EC and TDS were recognized as most effective parameters on distribution of diatoms in Chehel Chay River.

Keywords: Epilith, Epipel, Diversity index, Water quality

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