

عنوان مقاله:

(Ecological factors affecting aquatic beetle species (Insecta: Coleoptera

محل انتشار:

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نویسندگان:

Maryam Taher - Shahrekord University

Mohammad Saeed Heydarnejad - Shahrekord University

خلاصه مقاله:

Aquatic Coleoptera play an important role in freshwater ecosystems and are considered as a suitable bioindicator. Despite being widely distributed in Iran, there are few studies in which aquatic Coleoptera are used to assess ecological quality and environmental conditions. With abundant water resources, Chaharmahal & Bakhtiari province, Iran, provides an excellent opportunity to explore the influence of environmental features on aquatic beetles. This research was aimed were to investigate community structure and to determine the dominant factors controlling aquatic beetles in the Borujen and Lordegan (as two main towns of the province). Using standard sampling tools (a small net and soft paintbrush), sampling was done seasonally for one year (between Sep. 2017 to July 2018) at six stations, also at each station ecological factors such as water temperature, water pH, water electrical conductivity and air temperature were measured by means of appropriated instruments. A total of 12 species belonging to 11 genera and 4 families were identified. The greatest number of species identified were found in the family Dytiscidae and the least number in the family Hydrophilidae. Two species of Agabus namely, Agabus conspersus and Agabus bipustulatus were the most abundant insects. Linear regression analysis showed that water temperature with correlation coefficient of 1.685 was the most effective factor in the distribution of aquatic Coleoptera and the air temperature with a correlation coefficient of 0.39 was the least important factor. In addition, canonical correspondence analysis (CCA) disclosed that water pH, water electrical conductivity (EC), water temperature (WT) and air temperature (AT) had an impact on the distribution of aquatic beetles. Our results suggest that water quality plays a key role in species richness of aquatic beetles, and that therefore they could be considered as an indicator organism .of freshwater ecosystem health

کلمات کلیدی:

Aquatic Coleoptera, Chaharmahal & Bakhtiari, Dytiscidae,, Ecological Factors, water temperature

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