

IN THE NAME OF GOD

A SURVEY OF BIODIVERSITY ON AQUATIC
COLEOPTERA FAUNA IN CHESHMEH-YE-AZIMI, A
SPRING – STREAM SYSTEM IN BAMOO NATIONAL PARK

BY

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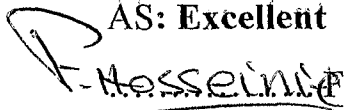
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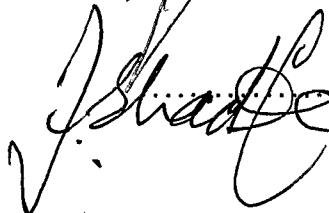
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ABSTRACT

Survey of biodiversity on aquatic Coleoptera fauna in Cheshmeh-ye-Azimi, a spring-stream system in Bamoo National Park

by

Mahmood Golmohammadi

The community dynamics of aquatic Coleoptera (Insecta) in one of the spring-stream habitats of Bamoo National Park in Fars province called Cheshmeh-ye-Azimi is studied as a pilot project and model for acquaintance with and furthering the biodiversity studies on fauna of Iran. Thirteen species –populations out of sixteen of this community were already identified for their taxonomy and for their population dynamics except three, two of which were also identified down to the species level in this study and the other one –the only one in the community –remained identified down to the genus level. The expertise acquaintance with the recognition of genera and species and their sex differentiation and their habitat was worked out and practiced –under the close supervision of experts- well prior to the starting of “field work” so that the identifications be done with precision and cautious certainty in the field, hence the animals collected could be released back to their home after the recordings.

Mid-seasonal samplings of the whole system is taken for six seasons, from spring 1379 (2000) to summer 1380 (2001) removing all the populations from wherever they existed in every “microhabitat” and were safely released back after their genera, species, number of individuals and their males and females were recorded. Results are

tabulated in space –along the length of stream- and time –six mid-seasons- and in quality –species composition- and in quantity – number of individuals of each sex in each species in six tables. Some of these results are shown diagrammatically also. The status of coexistence of species pairs and species triplets is worked out statistically. The dynamics of the community and it's nature are discussed. Further studies following this type of work are recommended.

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CHAPTER I

INTRODUCTION

1.1. The aims of this study

This project is aimed and designed to:

1) maintain and offer a substrate for practicing the concept of “biosystematics” in nature through its “biodiversity” (totality of local populations or local community and its dynamics; changes in space and time). It is to learn and understand the concept and structural perspective of the subject, by measuring and monitoring it in the nature.

2) to gain more profound perception of what is called “biological species” the core and fundamental unit of biosystematics and evolution, by searching and investigation in nature. Since, biodiversity studies need a scope of work specialists and a long time, the strategy was to selecting a small outlined (with obvious boundaries), habitat, a more dominant taxon already worked out and having its taxonomist(s) available, and within a short distance (reachable in short time). Thus, a spring-stream systems in Bamoo National Park, named Cheshmeh-ye-Azimi, and a taxon, among dominant invertebrate group namely aquatic Coleoptera as a working model, were chosen.

This selection was based on the following limitations or availabilities:

1) The closeness of Bamoo to Shiraz, which solves the problem of time and transportation, facilities, which are practicals available for short distance trips.

2) The intactness of area, being protected against human intrusions – mainly in more recent times.

3) Spring-stream systems of Bamoo, being small, closed and isolated habitats, being truly fitted for such studies (biosystematics and biodiversity).

4) The accessibility to different specialists of aquatic Coleoptera; the continuous presence of Dr, Sh. Hosseinie, the specialist on the taxonomy of aquatic Coleoptera of Iran, and Mr. K. Elmi , the expert technician on this group.

5) Time limitation allowed for the period of M.Sc. degree; two years.

6) The lack of such studies in this region _ according to all source of informations available.

7) The on going major project on population (dynamics, habitat selection, etc.), biosystematics, and biodiversity studies of aquatic animals of Bamoo National Park established and led by Dr.F.Hosseinie, limnologist (ecologist of inland waters) at the Department of Biology, of which this project is a part of.

8) Prolonged and extensive amount of work done, and being continued on the fauna of the aquatic Coleoptera of Iran at the Department of Biology of Shiraz University, by Dr. Sh. Hosseinie, which provides a practical quite helpful and proper background material for the correct and quick access to the possibility of the scientific identification of these insects.