



## Entomofaunal Diversity of Daha River in Siwan

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### Introduction

Insects are tracheates arthropods, undoubtedly form, the most successful group in the animal kingdom. It is estimated that more than 1 million species have been described. Insects are aquatic and terrestrial both. Truly aquatic insects are those that spend some part of their life cycle closely associated with water either living beneath the surface. Less than 5% of the insects are aquatic.

Insects are aquatic macro-invertebrate. They are intimately related with the environment. Any alteration produced in the physical or chemical status of a riverine ecosystem becomes recognizable through the community structure of the organization. In fact the presence and absence of certain species or of their associations can give a fairly accurate estimation of the degree of pollution present. Insect or Entomofaunal diversity acts as a tool for making an integrated assessment of water quality in the river. (Met Calfe & Smith : 1994, Kar 1991).

### Materials and Methods

Daha-river originates from a chaura of small village name Sasamusa of Kuchaikot at Goplaganj district. This river walks its own mood through Siwan which is located in North-Western part of Bihar, an inter fluvial region of the river Ghaghra and Gandak. This district extends from 25°00' N to 26°52' N to latitude and 84°00' E to 84°47' E Longitude. This river is moderately polluted and received distillery - effluents during some season and sewage from town.

During the present study from Nov. 2005 to Dec. 2007) Insect were collected from different sites with the help of ordinary hand pond net. The Entomofaunal sample were collected and brought to the laboratory and preserved in 70% alcohol or 5% Formalin. Macro invertebrates were identified by using standard key and book of "Fresh Water Invertebrates by Robert W. Pennak (1978) and S. Mani (1982).

### Results and Discussion

The study revealed that insects were comparatively more abundant than molluscs and other aquatic

invertebrates Entomofaunal diversity of Daha river has 22 species belonging to the following - Seven Taxonomic orders. These were - Ephemeroptera, Odonata, Plecoptera, Hemiptera, Trichoptera, Coleoptera and Diptera. Eighteen families of these orders are :- Gerridae, Notonectidae, Pleidae, Nepeidae, Corixidae, Belostomatidae, Culicidae, Chironomidae, Tanyodinae, Simuliidae, Heleidae, Ephydriidae,

**List of Entomofaunal Recorded from River DAHA during the period of Investigation**

ORDER	SCIENTIFIC NAME	COMMON NAME
Ephemeroptera Odonata	(1) Ephemeroptera (1) Dragon flies (2) Damsel flies	May flies Dragon flies Damsel flies
Plecoptera Hemiptera	(1) Stone flies (1) Gerris (2) Notonecta (3) Neoplea (4) Nepa (5) Ranantra (6) Corixa	Water strider Back swimmer Pigmy back swimmer Water Scorpion Water Scorpion Water boatman
Trichoptera Diptera	(1) Caddis flies (1) Culex (2) Chironomid (3) Tanypodium (4) Simulium (5) Ceratopogon (6) Ephydra (7) Tabanus	Case-bearer Culex larva Blood worm  Black flies Sand flies Shore flies Horse flies
Coleoptera	(1) Beetles (2) Dytiscus (Hyhophorous) (3) Gyrimus (4) Hydrophilus (5) Sternolophus (6) Dineutus (7) Halipus	Shield Wing beetles Predaceous diving beetles Whirling beetles  Water Scavenger Whirling beetles Crawling water beetles

Syrphidae, Tabanidae, Dytiscidae, Gyrinidae, Hydrophilidae and Haliplidae.



There are some interesting insect present in this river. These are Belostoma and Neoplea. In Belostomatidae family - Belostoma spheroderma, the female cement their eggs on the back of the male and male carries them about for a week. The number of eggs may be 150. In pleidae, Neoplea or pigrny (back swimmers) are smallest aquatic hemiptera. Its body is strongly arched.

Since macro-invertebrates are pollution indicators, Insects are divided into three class depending upon the degree of pollution. In the present investigation the chironomous larva, Notonecta, Ephydra, Syrphidium larva, simulium and ceratopogon larva were grouped as class III, i.e. present in polluted water, similar was repted by (Das 1989 and Gaufin 1974). Entomo fauna including - caddisfly larva, Mayfly nymph of dragon fly and damsel fly, Dineutus, Gyrinus, Nepa, Corixa, Belosomatidae, Heleidae, Ranantra are grouped under class II, i.e. where water was moderately polluted. Similar was reported by (David and Ray 1966, Gaufin 1974, Das 1989 and Prasad and Vanshney, 1990).

Thus, Daha river is a unique river, shows richness in entomofaunal diversity. The main aim of this research is to study the entomofaunal diversity and steps taken to protect it.

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