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Exploring of dragonfly fauna in lower region of district Karak KP, Pakistan

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Abstract

The present study was conducted to explore dragonfly fauna in the lower region (North West) of District Karak Khyber Pakhtunkhwa Pakistan. Duration of the study was one year, i.e., January 2015 to December 2015. A total of 850 specimens were collected from various sampling sites, viz., Rehmat Abad, Soor Dag, Latamber, Shareef Wala and Paloskai Banda of the North West region. The Specimens identified belong to 1 Order Odonata, 3 Families Libellulidae, Aeshnidae and Gomphidae, 6 Genera and 6 Species respectively. Family Libellulidae was the largest family consisting 4 Species *Orthetrum triangulare triangulare*, *Palpopleura sexmaculata*, *Pantala flavescens* and *Trithemis aurora*. Family Aeshnidae and Gomphidae comprising only one species, each *Anax immaculifrons* and *Onychogomphus strigatus* respectively. From the current research it can be concluded that this region have a diverse dragon fly fauna. Similar survey on large scales is recommended to fully evaluate the dragonfly fauna of North West region of District Karak.

Keywords: Dragonfly, exploring, family, region, Karak, fauna

1. Introduction

Lower region (North West) of District Karak including Rehmat Abad, Soor Dag, Latamber, Shareef Wala and Paloskai Banda is situated about 10 to 40 Km away from the main Karak City approximately as shown in the figure 1. This region is almost surrounded by the mountain from the North. The habitat of this region is suitable for different animal fauna survival. Dragonflies are very valuable insect and the knowledge of the fauna is important for decision making about environmental protection and crop management. Dragonflies are very beautiful and graceful insects of the world. The naiads serve as food for growing freshwater fish, and the soft bodies of the general are eaten by songbirds like tasty snacks [1]. Entomophagy is the eating of insects by human being. Presently insects are eaten in different continents, including Australia, Asia, America and Africa. There are about 3000 different ethnic groups in 113 countries that use almost 1500 species of edible insects as food. Many insects of all sizes and shapes are the part of menus of some small and big restaurants [2]. Adults are also caught and fried or eaten in soups in Indonesia, Africa, and South America. In China and Japan, Odonates are believed to have medicinal properties. The *Sympetrum* species are used to cure fever [3]. Dragonflies have occupied a central position in Japanese poetry, painting, clothing patterns, and children's games, like bird watchers in the Europe and United States. Furthermore, the beauty of these insects has led them to being featured in different commercial products like jewelry and such other decorative items. Odonates have strong association with water because of their aquatic larvae [4]. Dragonflies have been extensively used as indicators of environmental quality in aquatic ecological units [5]. The aim of the research work was to find out the exploring of dragonfly Fauna in Lower Region of District Karak KP, Pakistan.

2. Materials and Methods

2.1 Collection and Preservation

The dragonflies were collected from the Lower region of District Karak by using aerial nets, killed in the cyanide bottle, pinned and their body parts were set on appropriate setting boards. On drying, these were properly labeled and mounted in the collection boxes. Naphthalene balls were placed in the boxes to keep them safe from the pests.



Fig 1: Map of North West region of District Karak KP, Pakistan

2.2 Identification and Description

Specimens were identified up to the species level by running them through key Fraser’s [6]. Valid names along with synonyms, distribution and ecological observations were given for species already recorded from Pakistan.

3. Results

In the present study dragonfly fauna was recorded in the North West region of District Karak KP, Pakistan. During the current survey 850 specimens of dragon fly were collected, Preserved and identified by key. Five sampling sites were selected for the current study, which was Rehmat Abad, Soor Dag, Latamber, Shareef Wala and Paloskai Banda respectively. The Specimens identified belong to Order Odonata, 3 Families Libellulidae, Aeshnidae and Gomphidae, 6 Genera and 6 Species as shown in the table 1. Family Libellulidae was the largest family consisting 4 Species *Orthetrum triangulare triangulare*, *Palpopleura sexmaculata*, *Pantala flavescens* and *Trithemis aurora*. Family Aeshnidae and Gomphidae comprising only one species, each *Anax immaculifrons* and *Onychogomphus strigatus* respectively. Hence the current study revealed that this region is suitable for Dragon fly fauna.

Table 1: Exploring of Dragonfly fauna in the Lower region (North West) of District Karak Pakhtunkhwa, Pakistan

Order	Family	Genus	Species
Odonata	Libellulidae	<i>Orthetrum</i>	<i>triangulare triangulare</i>
		<i>Palpopleura</i>	<i>sexmaculata</i>
		<i>Pantala</i>	<i>flavescens</i>
		<i>Trithemis</i>	<i>aurora</i>
	Aeshnidae	<i>Anax</i>	<i>immaculifrons</i>
Gomphidae	<i>Onychogomphus</i>	<i>bistrigatus</i>	
Order 01	Families 03	Genus 06	Species 06

4. Discussion

During the current study in the North West region, 6 species of dragonfly were recorded up to the species level and there proper systematic classification is given in the table 1 described in detailed above. The identified 06 species belong to 01 Order, 03 Families, 06 Genera and 06 Species, family Libellulidae was found the richest one over all the recorded families which comprising 04 species. From the literature study, it can be concluded that there was no previous record

or data on dragonfly fauna in this region and whole District Karak as well.

A study conducted by Rathod *et al.* (2012) identified a total of 31 species of dragonfly belonging to 6 families, namely Libellulidae, Coenagrionidae, Gomophidae, Lestidae, Aeshnidae and Platycnemididae [7]. In present survey 06 species and 3 families, namely Libellulidae, the Gomphidae and Aeshnidae were recorded which show great similarities between both areas. Another work was carried out by Khaliq, who recorded 19 species of dragonflies from Poonch District of Azad Jammu and Kashmir, Pakistan [8]. In the present study only 6 species were recorded so the results of both studies are too much dissimilar from one another. These differences may be due to different climatic factors or any topographic changes, etc. Ahmad (1994) identified 3 new genera and 4 species of Anisoptera from Khyber Pakhtunkhwa [9]. During the current study conducted in the Lower region of District Karak clearly revealed differences from one another after comparison of the both study. From this result, we can conclude that there are a lot of climatic variations within the Khyber Pakhtunkhwa Province, due to which the variables occur in the both study even Lower areas of the District also include in Khyber Pakhtunkhwa Province Pakistan.

5. Conclusion

From the current study it can be concluded that the increase in the anthropogenic activities and disturbance of the natural habitat of the mountain areas declines the dragon fly population. The majority of the dragonfly fauna was recorded in those areas where human activities and transport were found less. If the necessary dragonfly fauna conservation steps are not taken to save their population, it will result in the endangering of the dragonfly fauna in the Lower region (North West) of District Karak KP, Pakistan.

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