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**Khalid Usman**  
Department of Zoology,  
Hazara University Mansehra,  
Khyber Pakhtunkhwa, Pakistan

**Sehrish Khudadad**  
Department of Zoology,  
Hazara University Mansehra,  
Khyber Pakhtunkhwa, Pakistan

**Khalid Pervaiz**  
Fisheries Research & Training  
Institute, Government of the  
Punjab, Lahore Pakistan

**Hameed Ur Rehman**  
Department of Chemistry,  
Kohat University of Science and  
Technology, Pakistan

**Muhammad Qasim**  
Department of Environmental  
Sciences University of Gujrat.

**Maryuem Humayuen**  
Department of Microbiology,  
Abbotabad University of Science  
and Technology, Pakistan+

**Azam Hayat**  
Department of Microbiology,  
Abbotabad University of Science  
and Technology, Pakistan

**Correspondence**  
**Hameed Ur Rehman**  
Department of Chemistry,  
Kohat University of Science and  
Technology, Khyber  
Pakhtunkhwa, Pakistan

## Exploring of the Spider fauna in the upper region of district Karak Khyber Pakhtunkhwa, Pakistan

**Khalid Usman, Sehrish Khudadad, Khalid Pervaiz, Hameed Ur Rehman, Muhammad Qasim, Maryuem Humayuen and Azam Hayat**

### Abstract

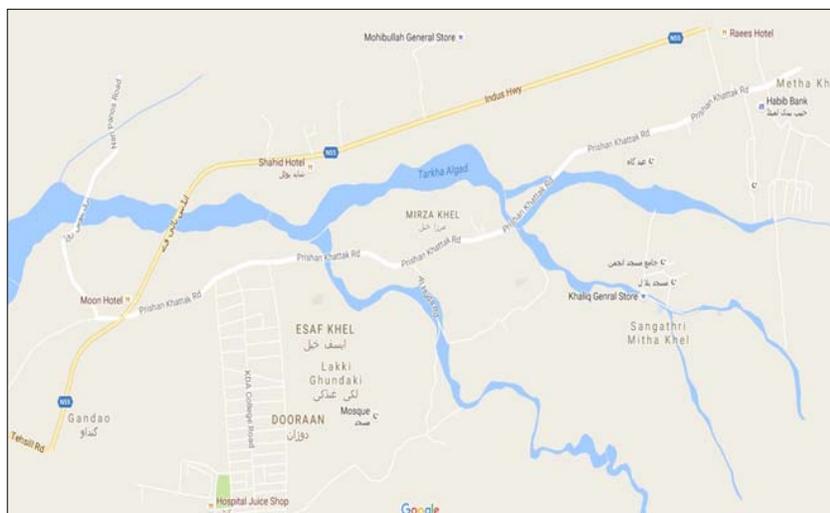
The survey was aimed to monitor the spider fauna in the Upper region of Karak, Khyber Pakhtunkhwa. Duration of the current study was one year, i.e., January 2011 to December, 2011. A total of 523 specimens of spider were recorded from various sampling sites. These sampling sites were Metha Khel, Sangathri Metha Khel, Mirza Khel, Esaf Khel, Gandao and Tarkha Algada respectively. The different spider Specimens were collected and were identified belongs to 1 Order Aranae, 5 families, 10 genera, 11 species respectively. Family Thomisidae was the largest family consisting 3 species, while family Araneidae, Gnphosidae, Lycosidae comprising of only 2 species each.

From the present research, it can be concluded that the Upper region of Karak has a diverse spider fauna. Similar survey on large scales is recommended to fully evaluate the spider fauna in this region.

**Keywords:** Spider, fauna, exploring, family, region, Upper, Karak

### 1. Introduction

Spiders are taxonomically diverse, indicators of environmental change and community level diversity. They show a variety of ecological niches [2]. Spiders are venomous, 40 species of spiders are potentially deadly to humans. Spiders are voracious predators and carnivorous. The worldwide status of the taxonomy of the spiders was depicted by Platnick [3]. Spiders are the group of arachnids comprises more than thirty thousand species, 60 families distributed over worldwide [1]. Biological control is the most effective control measures against insect pests. Insect pests have successfully been controlled by using natural predators like spiders and beetles [4]. Spiders are natural predators in agro ecosystems [5-6]. A spider not only preys on adult insects but also egg, larval etc. stages [7]. The aim of the current study was the first effort to investigate the exploring spider fauna in the upper region of district Karak Khyber Pakhtunkhwa, Pakistan.



**Fig 1:** Map of Tehsil Takht-e-Nusrati District Karak KP, Pakistan

## 2. Materials and Methods

### 2.1 Study site

The present study was conducted from January 2011 to December, 2011 at different study sites from the upper regions of Karak as shown in the Figure 1 above.

### 2.2 Sampling methods

A survey was conducted for 1 year from January 2011 to December, 2011 at different study sites. Spiders were collected by adopting standard sampling techniques such as sweep netting, beating sheets, active searching, hand picking and Umbrella collection. All surveys were conducted in the morning hours between 7:00 am to 3:00 pm. Collected spiders were photographed in livable condition.

### 2.3 Preservation

All the collected specimens were labeled and preserved in 70% alcohol with a few drops of glycerin.

### 2.4 Identification

All specimens were identified using the taxonomic keys Sabastian (2009) [8], Levi (1975) [9], Namkung (2002) [10], Maqsood (2011) [11] respectively.

**Table 1:** Identification of spider fauna in various sites of Upper region of District Karak, KP, Pakistan

Order	Family	Genus	Species
Aranae	Araneidae	<i>Araneus</i>	<i>diadematus</i>
		<i>Neoscona</i>	<i>Theis</i>
	Gnaphosidae	<i>Gnaphosa</i>	<i>Eucalyptus</i>
		<i>Scotophaeus</i>	<i>aisalabadiensis</i>
	Salticidae	<i>Marpissa</i>	<i>Tigrina</i>
		<i>Plexippus</i>	<i>paykullii</i>
	Thomisidae	<i>Diaea</i>	<i>evanida</i>
		<i>Thomisus</i>	<i>Pugilis</i>
			<i>pectabilis</i>
	Lycosidae	<i>Arctosa</i>	<i>littoralis</i>
		<i>Hippasa</i>	<i>Partita</i>
Orders 01	Families 05	Genus 10	Species 11

## 3. Results

In the current research, spider fauna was collected from the Upper region of District Karak KP, Pakistan. During the present study 523 specimens of spider were collected, Preserved and identified by key. Five sampling sites were selected for the present survey, which were Metha Khel, Sangathri Metha Khel, Mirza Khel, Esaf Khel, Gandao and Tarkha Algada respectively as shown in the Figure 1 mention above briefly. The Specimens collected and identified belong to 1 Order Aranae, 5 Families, 10 genera, 11 species respectively. Family Thomisidae was the largest family consisting of 3 Species while Family Araneidae, Gnaphosidae, Lycosidae comprising only 2 species, each shown in the Table 1, respectively. From the current work it is concluded that Upper region of District Karak provides a good habitat for the spider fauna.

## 4. Discussion

The present research was conducted in the Upper region of District Karak Khyber Pakhtunkhwa, Pakistan. During the current study, 11 species of spider were identified up to the species level and their proper systematic classification is given in the table 1 recorded 11 species belong to 1 Orders, 5 Families, 10 Genera. In these 5 families, Thomisidae was found the richest one over all the recorded families which comprising 3 species. Previous study was conducted on

Guava gardens of District Faisalabad, Pakistan. Maqsood in 2011 were identified different families of the spiders. The maximum abundance (%) of families Lycosidae (65.52%) followed by the Salticidae (22.11%) and Thomisidae (9.04%) whereas Araneidae (3.11%), Clubionidae (3.41%); Gnaphosidae (2.55%) and Oxyopidae (2.34%) respectively [12]. In the present study conducted on the Upper region of District Karak shows variations in results because The Family Thomisidae was found the richest one. The reason may be due to the variation of climatic changes because each and every spider having a specific optimum climate in which they inhabit. Another study was conducted at different places of University of Pune and observed 32 species of spiders belonging to 7 families. Family Araneidae was the most dominant family exploring 35% of species [13]. There are variations in the both results which may be due to the difference in feeding habits or other topographical variety of the both areas. In another study, there were a total 69 species of spiders were documented and highest of Araneidae family with *Argiope pulchella* as the dominant species from different habitats of the several blocks of Barpeta District, Assam were found [14].

There was a variation in the both results. The difference in the both results may be due to change of habitat or due to change of any other geographical features. From the literature study, it can be concluded that there was no previous record on Aranae fauna in this region and whole District Karak as well.

## 5. Conclusion

From the current study it can be concluded that the majority of the spider fauna was recorded in those areas where human activities and transport were found less. If the necessary spider fauna conservation steps are not taken to save their population, it will result in the endangering of the spider fauna in the Upper region of District Karak KP, Pakistan.

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