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## Exploring of spider fauna in lower region of district Karak KP, Pakistan

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**Abstract**

The present study was conducted to explore spider 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 378 specimens were collected from various sampling sites Rehmat Abad, Soor Dag, Latamber, Shareef Wala and Paloskai Banda of the North West region. The Specimens identified belongs to 1 Order Aranae, 6 Families 13 genera and 14 Species *horacica*, *diadematus*, *theis*, *eucalyptus*, *aisalabadiensis*, *tigrina*, *paykullii*, *evanida*, *pugilis*, *pectabilis*, *littoralis*, *partita*, *madanensisi* and *bimanica* respectively. Family Lycosidae was the largest family consists of 4 Species, Family Thomisidae comprising 3 species, Family Araneidae, Gnphosidae and Salticidae are consisting only of 2 species each while family Scytodidae comprising only 1 species.

From the present study it may be concluded that this region have a diverse of spider fauna. Similar survey on large scales is recommended to fully evaluate the spider fauna of the Lower North West region District Karak.

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

**1. Introduction**

In Lower region (North West) of District Karak including Rehmat Abad, Soor Dag, Latamber, Shareef Wala and Paloskai Banda are 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. Spiders are one of the most important Arthropods group in agroecosystems. They colonize almost all habitats and have great ability in resisting to adverse ecological conditions. Although spiders are generalist predators, they can be seen as a group of specialised predators, if their different ecological niches are taken into account [1]. Therefore, spiders are extremely important in maintaining pests' densities at low levels, having an important role in pest limitation in agro ecosystems [2]. Landscape diversity is an important factor to spider communities. Spiders depend on the surrounding habitat vegetation, shrub and herbaceous layer, since these structures can act as refuge areas [3]. Habitat diversity around the fields enhances migration from the orchard's surroundings, allowing recolonisation of the agro ecosystem [4]. Kazim in (2014) investigate the spider fauna of Karachi Sindh Province and reported 80 species from 21 families under 51 genera are being Reported during 2009 to 2014. Salticidae were most commonly occurred species. The aim of the current survey was to exploring of spider fauna in lower region of district Karak KP, Pakistan.



**Fig 1:** Map of lower region of District Karak KP, Pakistan

## 2. Materials and Methods

### 2.1 Study site

The present study was conducted from January 2015 to December 2015 on spiders fauna at different study sites from Lower region (North West) of District Karak as shown in the Figure 1 above. 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 6:00 am to 3:00 pm. Collected spiders were photographed in live condition. All the collected specimens were labeled and preserved in 70% alcohol with few drops of glycerin. All specimens were identified using the taxonomic keys Biswas (1992) <sup>[5]</sup>, Sebastian (2009) <sup>[6]</sup>, Levi (1975) <sup>[7]</sup>, Namkung (2002) <sup>[8]</sup> respectively.

**Table 1:** Exploring of Spider fauna in Lower North West areas of Karak KP, Pakistan

Order	Family	Genus	Species
Aranae	Scytodidae	Scytodes	<i>horacica</i>
	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>
		<i>Lycosa</i>	<i>madanensisi</i>
		<i>Pardosa</i>	<i>bimanica</i>
Orders 01	Families 06	Genus 13	Species 14

### 3. Results

In the present study spider fauna was recorded in the Lower North West region of District Karak KP, Pakistan. During the current survey 378 specimens of spider were collected, Preserved and identified by key. Five sampling sites were selected for the current study which was Rehmat Abad, Soor Dag, Latamber, ShareefWala and Paloskai Banda respectively. The Specimens identified belong to 1 Order Aranae, 6 Families Scytodidae, Araneidae, Gnaphosidae, Salticidae, Thomisidae and Lycosidae; 13 genera *Scytodes*, *Araneus*, *Neoscona*, *Gnaphosa*, *Scotophaeus*, *Marpissa*, *Plexippus*, *Diaea*, *Thomisus*, *Arctosa*, *Hippasa*, *Lycosa* and *Pardosa* 14 Species *horacica*, *diadematus*, *theis*, *eucalyptus*, *aisalabadiensis*, *tigrina*, *paykullii*, *evanida*, *pugilis*, *pectabilis*, *littoralis*, *partita*, *madanensisi* and *bimanica* respectively. Family Lycosidae was the largest family consisting 4 Species, Family Thomisidae comprising 3 species, Family Araneidae, Gnaphosidae and Salticidae consisting only 2 species each while family Scytodidae comprising only 1 specie shwen in Table, 1. Hence the current study reviled that this region is suitable for spider fauna.

### 4. Discussion

During the current study in the Lower North West region of Karak, 14 species of spider fauna were recorded up to the species level and their proper systematic classification is given in the table 1 described in detailed above. The identified 14 species belong to 01 Orders, 6 Families, 13 Genera and 14 Species respectively as shown in the table 1. In these 14 spider species family Lycosidae was found the richest one over all the recorded families which comprising 04 species.

Another study was conducted on Lahore to find out spider fauna. In this study Taxonomic study of the spider fauna was carried out upto the species level <sup>[9]</sup>. In this study 121 species belonging to 65 genera and 20 families were recorded for the first time. The current result is too much different from the previous its may be due to variation in habitat of the spider because each species of the spider prefer a specific habitat in which they survive well and second reason of the difference may be due to the difference in climatic factors which adversely affected the population of the spider fauna. Arshad conducted study in (1984) to find out the spider population and reported eight families, thirteen genera and eighteen species from Peshawar and adjacent areas <sup>[10]</sup>. In the current study only 14 species of the spiders were identified, hence there are very closeness in the two result i.e. previous work and the present work. This minute variation is may be due to minute changes in the climatic and ecological factors. Furthermore, the closeness may be due to the same topographical features and ecological as well. From the literature studied, it can be concluded that there was no previous literature regarding spider fauna in this region and whole District Karak as well.

### 5. Conclusion

From the current study it can be concluded that increase in the anthropogenic activities and disturbance of natural habitat of the mountain areas decline the spider population. 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 spider fauna in the Lower region (North West) of District Karak KP, Pakistan.

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