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First record of different families of spider district Sohbatpur, Pakistan

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Abstract
Taxonomic studies started in the month of November 2017 to December, 2018. 1173 spiders were collected and sorted into four families such as *Araneidae, Lycosidae, Theridiidae and Tetragnathidae,* five genera *Argiope, Lycosa, Pardosa, Tetragnatha, Latrodectus,* and six species namely *Argiope trifasciata, A. pradhani, Tetragnatha javana, Latrodectus hasselti, Lycosa terrestris and Pardosa birmanica.* Theses all are reported for the first time from Sohbatpur Balochistan while *Latrodectus hasselti* is poisonous spider first time recorded from Pakistan.

Keywords: Orb-web spider, rice, Araneidae, Tetragnathidae, Sohbatpur

1. Introduction
Spiders are unique in that they have inhabited almost all environments, including one at 23,000 ft on Mount Everest. They are one of the most abundant potential predatory groups in the terrestrial ecosystems [1]. They feed on insects and some other arthropods Most of them are polyphagous predators and feed on various insect pest of agricultural crops. [2]. Kingdom-Animalia, Phylum-Arthropoda, Class-Arachnida and Order- Araneae has group of spiders on the 7th number in ranked in biodiversity More than identified and observed 47000 species with 114 families. [3]. Spiders are carnivorous as well as rapacious; they are using the insects as food in regulate to survive [5]. Family Araneidae and Tetragnathidae are the web building spiders and also can control and maintain the ecosystem and most of the spider fully developed in the adult form during the harvesting the Rice crop [6]. Araneidae, Tetragnathidae spiders trapped the insects through web and web is the five times stronger than the piano wire.
Spider's knowledge has been unnoticed among the researcher scholar of Balochistan Province. In Pakistan the present knowledge, discussion, science, ecology, biology and genetics about spider fauna is highly restricted. Moreover, the predatory studies, biological studies, ecological studies and possible issues are clearly panic. Before took the important efforts to estimate important functions of spiders to reduce the rate of pest population in the Different Habitats of district Sohbatpur, Balochistan, Pakistan.

2. Materials and Methods
1173 spiders were collected during the field work of district Sohbatpur with four localities such as Sohbatpur, Hairdin, Fairdabad and Manjhipur from the month of November 2017 to December 2018. Numbers of specimen were captured by Hand picking method, beat sheet method sweeping with firm net. Specimens were collected water canal, rice and wheat field, water pools.
Specimens were preserved and sealed in bottles that contain 70% alcohol and 2 to 3 drops glycerin. All specimens were brought to laboratory present in bottles filled with 70% alcohol and few drops of glycerin. Preserved spiders were reserved in Petri dishes then Spiders were examined one by one under LED light microscope with help brush and forceps. Taxonomical keys were used for examination and taxonomic studies up to families and genera with species [1]. Different parameters such as body length, abdomen length, carapace length, abdomen width, carapace width and legs of adult spiders were calculated in mm. In the last examined spiders permanently preserved in vials filled 70% alcohol mixed with few drops glycerin and tagged with family, time date, and locality and collector name.

Fig 1&2: Showing the niche and hand picking method during the field work at Sohbatpur

Fig 3 & 4: Showing the observations at laboratory for identifications of the collected specimens

Fig 5 & 6: Showing the collection of specimens beat sheet method and swamping with firm net

3. Results and Discussion

During taxonomic study of spiders from different habitat of district Sohbatpur along with four localities namely Sohbatpur, Hairdin, Faridabad and Manipur were visited and survived from the during November -2017 during the December-2018. 1173 specimens were captured from different areas i.e. near water canals, land, tillers, foliage, stems and leaves and sorted out into four families such as Araneidae with one genus and two species and Tetragnathidae with one genus and one species Lycosidae with two genus and species and Family Theridiidae with one genus and one species. The identification applied on the basis upon the morphology with the help of taxonomical keys [4].

During the present research, status of male and female collected spider from different habitats is given below (Table.1), No of Specimens collected Family wise given below (Table.2), the percentage of Spiders Family wise given below (Histogram no.01), the Male and Female % of collected specimens collected district Sohbatpur, Balochistan, Pakistan is also given below (Fig.7), Proportion of different families in different habitats of District Sohbatpur Balochistan given below.

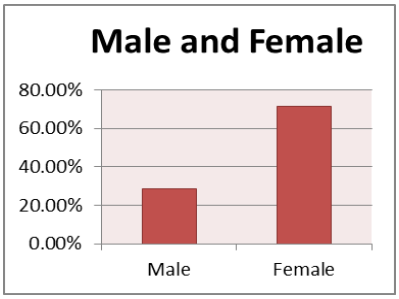

Fig 7: Graph showing Male and Female ration of collected specimens.

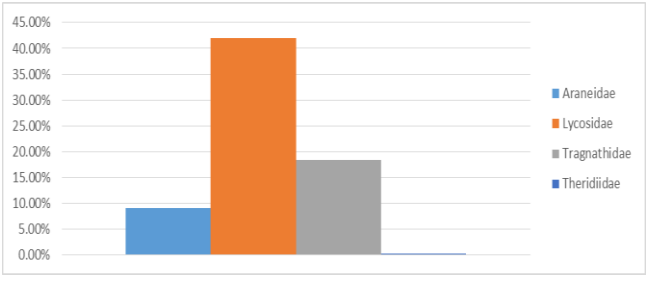

Fig 8: Proportion of different families in different habitats of District Sohbatpur Balochistan

Table 1: Showing the No of Specimens at different sites /places Family based.

Family Species Name	House	Foliage	Ground	Total
Araneidae (Simon,1895)		306		306
Lycosidae (Sundevall, 1833)			493	493
Theridiidae (Sundevall, 1833)	01	-		1
Tetragnathidae (Menge,1866)		373	-	373
Total				1173

Table 2: Showing the no of genera, no of species and their percentage

Family	No. of genera	No. of Species	% of Species
Araneidae	1	2	26.08
Lycosidae	2	2	42.02
Tetragnathidae	1	1	31.79
Theridiidae	1	1	0.08

Fig 9: *Tetragnatha javana*

***Fig*10:** *Latrodectus hasselti*

Fig 11: *Pardosa birmanica*

Fig 12: *Lycosa terrestris*

Fig 13: *Argiope pradhani*

Fig 14: *Argiope trifasciata*

4. Conclusion

This was the first time research work reported from District Sohbatpur, Balochistan, Pakistan, during the survey the author face many hindrances of law in orders situations. Instead of these situations He collected 1173 specimens of spiders. These collection were sorted out into four families *Araneidae, Lycosidae, Theridiidae and Tetragnathidae,* five genera *Argiope, Lycosa, Pardosa, Tetragnatha, Latrodectus,* and six species namely *Argiope trifasciata, A. Pradhani, Tetragnatha javana, Latrodectus hasselti, Lycosa terrestris and Pardosa birmanica.* Theses all are reported for the first time from Sohbatpur Balochistan while *Latrodectus hasselti* is poisonous spider first time recorded from Pakistan. It is observed that Balochistan is virgin and need to explore for new records and new species of Spider Fauna.

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