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Diversity and Distribution of Spider Species in Lohara Village, District Chandrapur (M.S.) India

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ABSTRACT

Spider constitutes a significant part of the biodiversity found within this extensive and varied natural environment. They play important role in maintaining the balance of the ecosystem. Spiders are most prevalent and common predators found in both agricultural and natural ecosystems. The aim of the current research was to offer insights into the diversity of spider fauna in Lohara Village, district Chandrapur. A survey was carried out during January 2025 to December 2025 at three different sites in Lohara village near District Chandrapur. A total of 21 spider species belonging to 16 genera of 10 families were collected. The current research was conducted to explore the diversity of spiders. We anticipate that the findings from this study will contribute to the enhancement of faunal data in the Chandrapur region and will motivate future researchers.

Keywords: *Chandrapur ,Diversity, Fauna, Lohara and Spider.*

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Introduction

Spiders constitute a significant part of the biodiversity found within this extensive and varied natural environment. They play an important role in maintaining the balance of the ecosystem. The information concerning the diversity of spiders its distribution and abundance in India is distributed unevenly. Spider inhabit terrestrial ecosystem, and a limited number of species are also present in freshwater and marine environments. Recognizing the significance of spiders in the natural control of various insect pests and their role as bio-indicators, it is crucial to understand the diversity of spiders. The current research was conducted to explore the diversity of spiders. We anticipate that the findings from this study will contribute to the enhancement of faunal data the Chandrapur region and will motivate future researchers. In India, approximately 1,686 spider species have been identified out of a global total of 44,906 species recorded. These arachnids are recognized as biological control agents, as they contribute to the maintenance of ecological balance by preying on small insects, while in turn, they become prey for birds and larger insects [1]. The anatomy of spiders is divided into two main sections: the cephalothorax and the abdomen. The cephalothorax is equipped with four pairs of legs, whereas the abdomen lacks any segmented structure [2]. Spiders are unable to consume solid food therefore; they must liquefy their food using digestive enzymes before ingesting the resulting liquid [3]. Spider as an ecological indicator plays an important role in maintaining ecological equilibrium [4].

Study Area: The current research was conducted in Lohara Village of Chandrapur District, located in Maharashtra state of India. (20002'04.17" N, 79029'39.59").

Lohara village is surrounded by deciduous forest and agricultural land. It is situated at 19.57°N latitude and 79.18°E longitude in the eastern region of Maharashtra state, Central India.

Materials and Methods

The current research aimed to evaluate the diversity of spiders in certain regions of Lohara near Chandrapur city, Maharashtra. Spiders were identified from three different sites during morning hours. Only mature spiders were identified and they were photographed by Nikon DSLR camera with micro lens and release back in natural habitat. Identification was done by standard literature by, [5], [6], [7] and [8].

Observation and Discussion

The overall count of spider specimens recorded was 18, species and 13 genera and 09 families identified in Lohara village area, which are classified under 10 families within the Order Araneae (see Table 1). The family Aranidae exhibited the highest diversity across the entire study area, comprising 4 genera and 7 species. This was followed by the family Oxyopidae, Sparassidae and Nephilidae which presented 2 genera and 2 species, while the family Theridiidae, Hersilidae, Pholcidae and Salticidae included 1 genus and 1 species. Similar findings noted by, [9] recorded 57 species belonging 35 genera under 14 families during 6-month survey in Salbardi forest (Satpura range).[10] recorded 49 spider species belonging to 22 genera under 9 families from orange agro ecosystem in the catchment area of upper Wardha dam, Amravati, Maharashtra. During a survey of 8 months in river basin, the individual belongs to 48 species of 31 Genera and 12 families were recorded.

In present investigation total 18 species belonging to family Araneidae (39%) followed by the family Oxyopidae (11%) comparatively moderate number of species from family Sparassidae (11%), Nephilidae (11%) and lowest species diversity is shown by family Theridiidae (6%), Hersilidae (6%), Pholcidae (6%) and Salticidae (6%) observed. Similar identification was done by, Deshmukh and Tekade (2019) studied indicates that most abundant species belong to family Salticidae (29.03%) followed by family Araneidae (27.08%) comparatively moderate number of species from family Tetragnathidae (8.33%), Oxyopidae (6.25%), Thomisidae (6.25%), Pisauridae (6.25%), Lycosidae (4.16%), Miturgidae (4.16%) and lowest species diversity was found in the species belong to family Clubionidae (2.08%), Erasidae (2.08%), Hersilidae (2.08%), Sparassidae (2.08%).The Araneidae family exhibited the highest level of diversity in this research. Both Araneidae and Thomisidae were identified as the predominant spider families in Madhya Pradesh. [11] and [12] reported that Salticidae represents the most diverse family in the Nagpur district of Maharashtra, with species richness measured at 0.000160 per square foot [13].

Table 1: Diversity of Spider species in and around Lohara area district- Chandrapur

Sr. No.	Family	Species
1	Aranidae	*Neoscona theisi*
2.	Araneidae	*Neoscona vigilans*
3.	Araneidae	*Neoscona odites*
4.	Araneidae	*Neoscona crucifera*
5.	Araneidae	*Argiope anasuja*
.6.	Araneidae	*Neoscona mukerjei*
7.	Araneidae	*Neoscona puncitigera*
8.	Oxyopidae	*Peucetia manicus*
9.	Oxyopidae	*Oxyopes javanus*
10.	Sparassidae	*Olios millet*
11.	Sparassidae	*Hetropoda venatoria*
12.	Nephilidae	*Nephila pilipes*
13.	Nephilidae	*Nephila kuhlii*
14.	Theridiidae	*Steatoda sp.*
15.	Hersilidae(Two Tailed Spider)	*Hersilia phalangioides*
16.	Pholcidae	*Pholcus sp.*
17.	Salticidae	*Telamonia sp.*
18.	Idiopidae (Armed Trapdoor Spider)	*Idiops sp.*

Table 2: Diversity of spider Families in Lohara, Chandrapur

Sr. No.	Family	Species
1	Aranidae	*07*
2.	Oxyopidae	*02*
3.	Sparassidae	*02*
4.	Nephilidae	*02*
5.	Theridiidae	*01*
.6.	Hersilidae(Two Tailed Spider)	*01*
7.	Pholcidae	*01*
8.	Salticidae	*01*
9.	Idiopidae (Armed Trapdoor Spider)	*01*

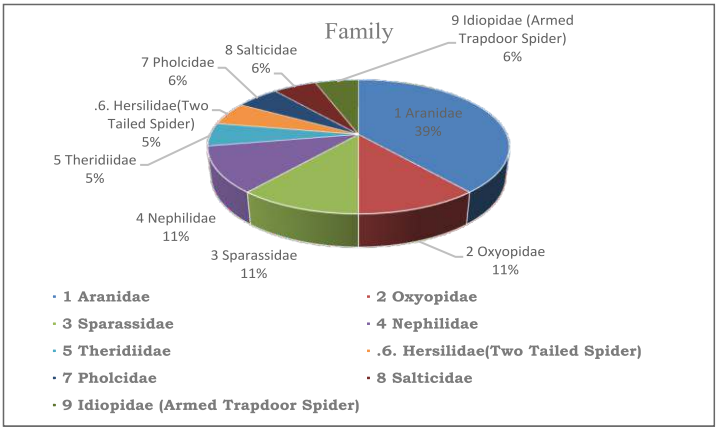

Fig. 1: Diversity of Spider species in and around Lohara area district- Chandrapur

a. Neoscona theisi | *b. Neoscona vigilans*

c. Neoscona crucifera | *d. Argiope anasuja*

e. Neoscona puncitigera | *f. Oxyopes javanus*

g. Olios millet | *h. Nephila pilipes*

I. Hersilia phalangioides | *j. Pholcus sp.*

k.Telamonia sp | *l. Idiops sp.*

Fig 2: Photographs of some Spiders species in Lohara, Chandrapur.

Conclusion:

The current research was conducted in Lohara village, District Chandrapur locations to assess their biodiversity and also provides a foundation for any forthcoming studies. The survey spanned duration of one year, from January 2025 to December 2025, at three different sites. These organisms play a crucial role in maintaining ecological equilibrium by preying on substantial insect populations. It was observed that Lohara village exhibited greater species diversity and richness. This indicates that locations serve as effective predators and prey. There is a need to investigate the seasonal fluctuations and effect of climates changes on the spider fauna in these areas and to focus on the conservation of this ecosystem, which has been a habitat for multiple species of spider fauna.

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