RESEARCH ARTICLE

Diversity of Spiders fauna from Sarangpuri Lake, Arvi, Vidarbha Region

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ABSTRACT

The paper reveals the study of Spiders found at Saranpuri Lake (Arvi) and at its adjoining deserted garden, forest and agriculture fields. The survey conducted, recorded 50 Spiders which comprise 7 Families and 16 Species. Although, the spiders of different families were noticed, the most dominant family observed was Araneidae with 5 species. The vegetation and the climate present at Sarangpuri Lake and at its adjoining area ascertain the availability of recorded species of spiders.

Keywords: - Spiders, Climate, Araneidae, Diversity.

INTRODUCTION

Spiders are a special group of invertebrates that exploit a wide variety of niches in virtually all biomes on earth and play a vital role in sustaining the ecosystem. They are a diverse group of animals attaining seventh number of diversity. Spiders comprise a significant portion of terrestrial arthropod diversity.

The spiders belong to order Aracnida, class Araneae, phylum Arthropoda. Spiders are web producing and having eight legged. The spiders are worldwide distributed and have an imperative position in global ecosystem. Spiders find everywhere at every time and they are abundant in both natural as well as agriculture habitat (Turnbull, 1973; Nyfeller and Benz, 1987).

Spiders are worldwide distributed except Antarctica, sea and air. Spiders can be easily found in small areas. Spiders are of different sizes, colours with different habitat. The spiders inject venom in prey to kill or paralyze it. The Jurassic and Cretaceous periods provide a large number of fossil spiders, including many modern families. Although today there are 42,473 described spider species within the diverse phylum of arthropods, in evolutionary study of spider, the first true spider, thin waisted arachnids evolved from crab-like chelicerae ancestors (Platnick, 2011).

The study area Sarangpuri Lake at Arvi city of Wardha district in Vidharbha region is located at 20.59°N 79.14°E. It has an average elevation of 828 meters (2716 feet). The spiders are the bio indicators, indicating the richness of biodiversity. As spiders are insectivorous, helps to keep the population of insect under control, therefore can be used as natural insecticide in agro ecosystem; so from the study area we recorded the fauna of spiders.

MORPHOLOGY

Classification -
Kingdom – Animalia
Phylum – Arthopoda
Subphylum – Chelicerata
Class - Araneae
Order -Archanida

Spiders are commonly named according to web pattern, behavior of spiders and resemblance with other animals.

Table 1: Spiders family name & common name

Sr.No	Family Name	Common Name
1	Araneidae	Orb web spider
2	Clubionidae	Sac / leaf rolling spider
3	Gnaphosidae	Ground runners
4	Lycosidae	Wolf spider
5	Oxyopidae	Lynx spider
6	Salticidae	Jumping spider
7	Uloboridae	Hackled web spider

MATERIALS AND METHODS

Spiders were collected, by insect nets, pitfall trap, visual searching, beating, sweeping, and stroking sticks were used, from vegetation, on ground, under stones/crevices, near lake etc. The specimens were preserved in 70% alcohol, labelled and identified according to Barrion and Litsinger (1995), Biswas and Biswas (1992), Davies and Zabka (1989), Gajbe (1987), Tikader (1962, 1970 ,1987) Plantnick (1989, 2004).

Study site

The study area, Sarangpuri Lake is situated at 2 km from Arvi city of Wardha district in Vidharbha region. It was created by British in 1907 AD. Adjoining to the Sarangpuri Lake there is reserve dense forest which comes under the supervision of forest department and deserted garden owns by Arvi Municipal Council.

Sampling

Spiders were collected from ground, tree trunks, vegetation, and grasslands under stones and near water body. Emphasis was given on collection of mature male and female spiders leaving immature to their habitat. Repetition of collection was also avoided. Over all 50 mature male and female spiders were collected, belonging to 7 families, and 16 species. It has been observed that abundance of spiders was high in vegetation.

RESULTS AND DISCUSSION

A total 16 species belonging to 7 families were recorded from study area. Of the total 16 species, Araneidae was the predominant family of total spider abundance.

Table 2: Total species found in study region

Sr.no	Family	No. of species
1	Araneidae	5
2	Clubionidae	1
3	Gnaphosidae	2
4	Lycosidae	2
5	Oxyopidae	2
6	Salticidae	3
7	Uloboridae	1

Table 3: Spiders fauna from study area

Family	Species
Aranedae	Araneus sp - Female
	Argiope aemula - Male
	Neoscona sp – Male
	Neoscona sp - Female
	Zygiella sp - Female
Clubinoidae	Clubiona sp. -Male
Gnaposidae	Gnaphosa paurinsis – Female
	Zelotes chandosiensis – Female
Lycocidae	Lycosa sp. – Female
	Hippasa sp. – Male
Oxyopidae	Oxyopus chittrae – Male
	Oxyopus sp. - Female
Saticidae	Plexipus insulana - Female
	Plexipus paykulii - Male
	Plexippus sp. – Male
Uloboridae	Uloborus sp. - Female

The density of family Araneidae and salticidae was found significantly more than the rest of the families due to greater adaptability and resource availability; it can be concluded that the study area is rich biodiversity. The result shows that the Spiders are sensitive to small changes in environment especially vegetation, topography and climate change. These parameters show effect on spider diversity.

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