

Preliminary Study of Spider Diversity of Family Oxyopidae from Akola District M.S. India

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Abstract

Spider diversity will study to explore the fauna of Akola. This is the attempt make for preparing list of species from oxyopidae morphology and anatomy of oxyopidae spider as noticed above it is insect eater spider. They are economically and ecologically important animals. The idea behind the synopsis is, to carried out a good research so, that it will help to farmers in Akola region and to other scientist in Akola region. Currently world having a valid genera of oxyopidae family and 448 species (Worldspider catalog) spider are at the top of the lower web in any ecosystem.

Keyword– Oxyopidae, Diversity, Eco-system, Oxyopes

Introduction

Spider is the dominant non-vertebrate predators in almost all habitat, making key stone ecosystem components. As, at any given time there are spiders on almost every square feet constantly seeking out and destroying insect pray during the whole year. Their effect on insect population is important without them out breaks of insect sppest would certainly be both more frequent and more severe. As of November, 22, 2024, 52487 species are listed after an average discovery rate of three new species per day. The number of spider species reported from India have increased gradually from 1067 species in 1987 (Tikader, 1987), 1442 species in 2005 (Siliwal et al., 2005), 1520 species in 2009 (Sebastian and Peter, 2009), 1686 species in 2012 (Keswani et al., 2012) to 1864 species at present (Caleb and Sankaran, 2021).

In the region of Vidarbha many researcher takes place outstanding research on spider. A total of 21 species of spiders in 19 genera of 13 families are was reported from Karhandla in Nagpur District (Gajbe Pawan, 2016). While in Amravati District, 120 species of spiders belonging to 14 families and 37 genera from the different habitats of the Pohra – Malkhed reserve forest (Vairale A. B. and G. A. Wagh, 2021). At Sawanga Vithoba Lake Region total 42 species under 20 genera and 14 families were recorded (Wankhade W. and N. Manwar, 2012)

In the region of Akola, diversity and distribution of spider fauna family Araneidae in and around Katepurna Sanctuary found. Total 11 genus and 26 species of family Araenidae were recorded (Shirbhate M.V. and Shirbhate, A.M. 2017).

The spider which comprise the family oxyopidae are known as Lynx spiders because of the habits and their relatively keen eyesight. Lynx spider (Oxyopidae) is a family of araneomorph spiders first described by Tamerlan Thorell in 1870. Most species make little use of webs, instead spending the lives as hunting spiders on plants. Today in world there are valid genera of oxyopidae family are 9 while number of valid species are 442 spiders of the family oxyopidae (World Spider Cat loge, 2021) Spider of the family oxyopidae received scant attention in India since Pocock's classical work (1900) on the Indian Archinida no serious attention has been given to explore the spider fauna of this country.

Oxyopids are not web builders; rather they are diurnal cursorial hunters and are most commonly found amongst the stem of tall grasses and low shrubs. The eggs are laid in tough silken sacs, which are anchored to leaves and twigs. Lynx spiders are important predators of many serious arthropods pests.

Importance of Family Oxyopidae

The striped lynx spider is one of the most abundant and beneficial spider species found in agricultural ecosystems it is particularly common in cotton, soybean, and grain sorghum and feeds on wide range of pest species. Stripped lynx spider considered major predator of bollworm. Spider serves as food for other predators. Striped lynx spider feeds on insects predominately in the order Hemiptera Hymenoptera and Diptera and even on other spider.

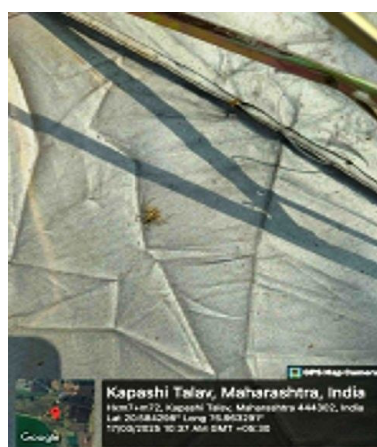
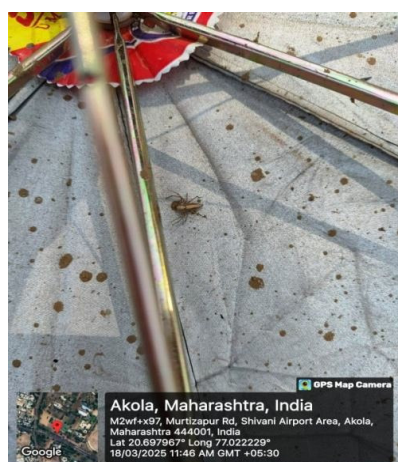
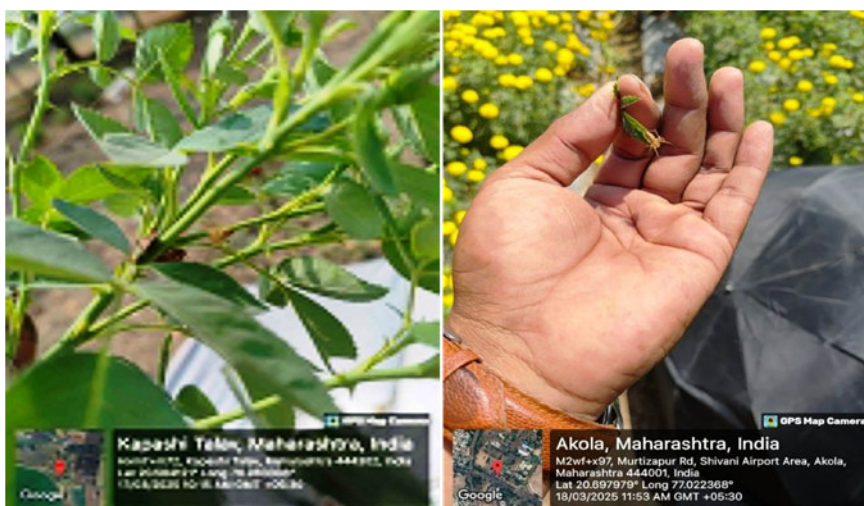
Proposed Methodology and Plan of Work

All collection of species of spiders will be preserved in 70 % alcohol and stored in clear glass or plastic sampling vials with tightly fitted caps. Each spider will be labelled individually with information specimen number, family, sex, date of collection locality name etc.

Material and Methods

Collection of Spiders.

- i) **Visual Searching.** Spiders are visually searched by at terrestrial all and environment, plants, trees, leaves and under stones and some housing areas.
- ii) **Inverted Umbrella Method.** Used to collect spiders from college and shrubs by shaking branches and dislodging spiders into an inverted umbrella for easy collection.
- iii) **Photography and Identification.** Freshly collected or visually searched species was taken a photo immediately. The data and location are noted. After collected spider species are observed, identified. Spiders are classified based on the ecological characteristic of known family by relating their ecological characteristics relating to foraging manner, nature of web, microhabitat, prey species (Young and Edwards 1990).

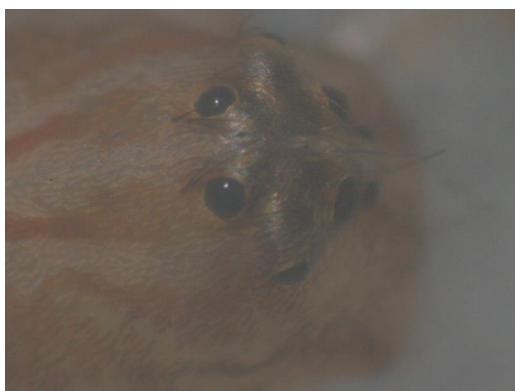




Observation and Result

Present studies were made on spider diversity of family Oxyopidae from Akola District. Samples were collected from Agro ecosystem, grassland ecosystem and forest ecosystem. In the present study we collected 50 individual specimens of family Oxyopidae. After collection photographs were taken with the help of stereo zoom microscope. Morphological observations were made which help to understand about taxonomic characters of the spider amongst 50 specimens, 30 individuals of *Oxyopes salticus* Striped Lynx Spider. 15 specimens belonging to Lean Lynx Spider only one specimen of Green Lynx Spiders of family Oxyopidae where collected from different habitat of Akola District. Further investigation will be done for classifying the individual specimen upto the species level will be carried out in the present research work.

Spider Diversity of family Oxyopidae found in different micro habitat in Akola district







Micro habitat of the oxyopidae spiders also studied in the present work. Member of oxyopidae spiders mostly observed on the flowering plant of Akola District. Oxyopidae spiders mostly captured insect pest which will be observed on the flower of the plant. Indirectly is also helps to biological control agent of variety of insect pest. So that there is need to conserve of microhabitat of the Oxyopidae spiders. In the present collection we were collected male and female of strip Lynx spiders and we collected female of Green Lynx Spiders (*Peucetia viridance*).

Discussion

Spider is ubiquitous agent of nature, which help for the control of insect pest population of flowering plant. Spider are venomous there venom helps to them for paralysing small insect. After paralysing with the help of their strong mouth parts, they will feed on to the paralysed insect.

In the present study we were identified striped lynx spider, Green lynx spider and Lean lynx Spider.

Oxyopes is a genus of lynx spiders found worldwide. It includes around 300 species and is classified under the lynx spider family Oxyopidae. Like other lynx spiders, they are easily recognizable by the six larger eyes arranged hexagonally on top of the head (prosoma), with the remaining smaller two eyes in front. They are also characterized by long spine-like bristles (setae) on their legs. They are ambush predators, actively hunting prey by sight. Though they produce and use silk, they do not build webs to capture prey. The genus was first established in 1804 by the French zoologist Pierre André Latreille. The generic name means "keen-eyed".

The **green lynx spider**, is a bright-green lynx spider usually found on green plants. It is the largest North American species in the family Oxyopidae. This spider is common in the southern U.S., Mexico, Central America, and in many West Indies islands, especially Jamaica. Lynx spiders are hunters specialized for living on plants. This species does not use a web to capture its prey. It pounces on its prey in a cat-like manner, which is the reason for the name *lynx*. It is active during the day.

Summary and Conclusion

In the present investigation we identified Oxyopidae spider up to the genus level. From the different habitats of from grassland, agro ecosystem, garden and from forest ecosystem, we found two species of the Oxyopidae spiders.

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