



“A Preliminary Study On Spider Diversity From Vijaysinha Yadav College Campus Peth Vadgaon, Dist. Kolhapur, Maharashtra”

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<p>CC License CC-BY-NC-SA 4.0</p>	<p style="text-align: center;">Abstract:</p> <p>The organisms belonging to class Insecta plays so many roles in the ecosystem, one of which is a pest. The spiders are exclusive predators of many insect pests. Hence, spiders can play a very important role in the regulation of the insect population in any ecosystem. The present study of spider diversity from Vijaysinha Yadav College Campus Peth Vadgaon, Dist. Kolhapur, Maharashtra is the first attempt to find out the diversity of spiders in the selected area. A survey was carried out in the rainy season from July 2023 to October 2023 on the campus of Vijaysinha Yadav College, Peth Vadgaon, Dist. Kolhapur. The College building and vegetation of the campus were surveyed in the morning between 08.00 am to 11.00 am weekly. A total of 31 spider species belonging to 19 genera of 09 families were identified.</p> <p>Keywords: Kolhapur, Shri Vijaysinha Yadav College, Spider diversity, Vegetation</p>
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Introduction

Spiders are the predators of many insect pests as well as they are an important food source for birds, lizards, wasps, and other animals. Ground-dwelling spiders may be important in transferring energy directly from the below-ground detritus food web to the above-ground terrestrial food webs of familiar birds, reptiles, amphibians, and mammals (Johnston, 2000). Spiders are an important source of food for many birds, especially in the winter (Peterson et al. 1989; Hogstad, 1984). Spider silk is important to bird species for nest building; 24 of 42 families of passerine birds and nearly all species of hummingbird depend on silk from spiders and caterpillars for construction (Hansel 1993).

In the world, there are 49853 spider species from 131 families and 4238 genera (World Spider Catalog (2022). World Spider Catalog. Version 23.0 Natural History Museum Bern, at <http://wsc.nmbe.ch>, 29-01-2022. doi: 10.24436/2). Keswani and others of SGB Amaravati University have given updated Spider checklist of India in 2012 representing 1686 species from 60 families and 438 genera of spiders (Suvarna More, 2015). In India studies on Spiders were started in the late nineteenth century and it was pioneered by Stoliczka (1869). Later on, many workers have contributed to Indian Spider diversity. Gajbe (2003) prepared a checklist of 186 species of spiders in 69 genera under 24 families distributed in Madhya Pradesh and

Chhattisgarh. Patel (2003) described 91 species belonging to 53 genera from Parabikulam Wildlife Sanctuary, Kerala. Manju Silwal et al. (2003) recorded 116 species from 66 genera and 25 families of spiders from Purna Wildlife Sanctuary, Dangs, Gujarat. Suvarna More (2013) recorded 150 spider species belonging to 24 families from the Bamnoli region of Koyna Wildlife Sanctuary, Maharashtra, and 90 species of 19 families from the Zolambi region of Chandoli National Park, Maharashtra (2015).

So far nobody has worked on the spider diversity of Peth Vadgaon, Dist. Kolhapur and hence we have decided to explore the spider diversity from this area.

Study area - Peth Vadgaon is a city in the Kolhapur district of the state of Maharashtra having more than 20000 human population. It is governed by a municipal council. Peth Vadgaon is a semi-urban city with good vegetation and agricultural land. A total of 07 acres of the College campus (16.50°N 74.19°E) has all types of plantations like herbs, shrubs, trees, and climbers. Also, the campus has 03 different buildings. The present study is carried out mainly in the buildings and shrubby plants.

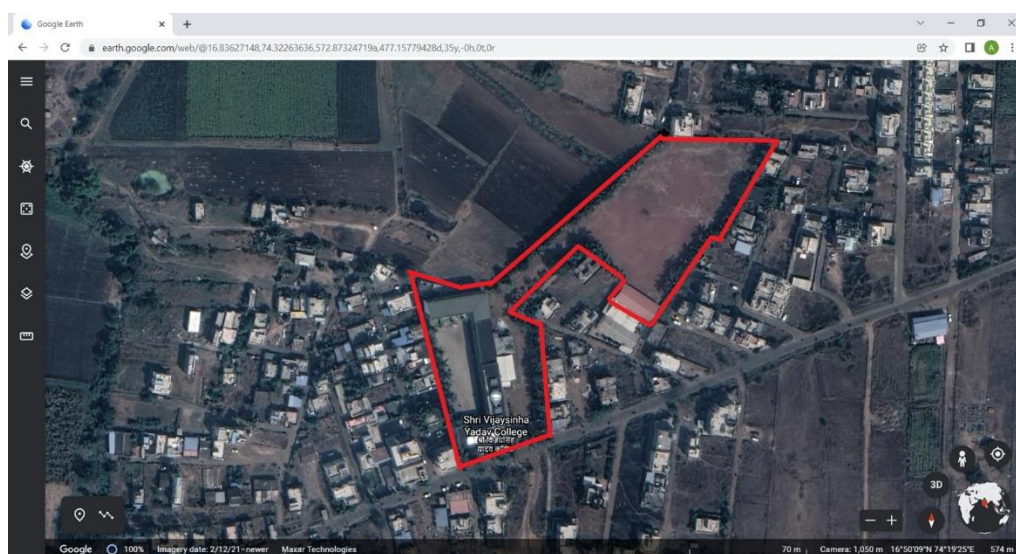


Fig. Location of Study area

Material and Methods

Different bushes and College Buildings were surveyed early in the morning between 08.00 am to 11.00 am weekly in the rainy season from July 2023 to October 2023. Visual search, Sweeping, Pitfall trapping, Hand collection, Litter Sampling are the different collection methods used during the present study. Identification of spiders was carried out with the available literature from Kaston, 1978; Tikader 1980; Tikader, 1987; Barrion and Litsinger, 1995 and Mujumdar, 2007. The spiders are identified mainly based on morphological characteristics, palp structure by using the literature.

Results

Below is the list of spiders with their families observed from Vijaysinha Yadav College campus, Peth Vadgaon, Dist. Kolhapur, Maharashtra.

1. Araneidae – Orb Web Spiders
 - i. *Argiope aemula* (Thorell)
 - ii. *Argiope anasuja*
 - iii. *Argiope pulchella*
 - iv. *Gasteracantha remifera* (Butler)
 - v. *Neoscona bengalensis* (Tikadar and Bal)
 - vi. *Neoscona mokerjei* (Tikader)
 - vii. *Polys nagpurensis* (Tikadar)
 - viii. *Telecantha brevispina* (Doleschall)
2. Corinnidae – Ant Mimicking Sac Spiders
 - ix. *Castianeira himalayensis* (Gravely)
 - x. *Castianeira zetes* (Simon)

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3. Lycosidae – Wolf Spiders
 - xi. *Archtosa indica* (Tikadar and Malhotra)
 - xii. *Evipa mandlaensis* (Gajbe)
 - xiii. *Lycosa balaranai* (Patel and Reddy)
 - xiv. *Lycosa thoracica* (Patel and Reddy)
 - xv. *Pardosa leucopalpis* (Gravely)
 - xvi. *Pardosa partita* (Simon)
4. Nephilidae
 - xvii. *Nephila pilipes*
5. Pholcidae – Daddy Long Leg Spiders
 - xviii. *Pholcus phalangioides* (Fuesslin)
6. Salticidae – Jumping Spiders
 - xix. *Marpissa singhi* (Singh and Sadana)
 - xx. *Menemerus bivittatus* (Dufour)
 - xxi. *Plexippus paykulli*
 - xxii. *Plexippus petersi*
 - xxiii. *Rhene decorate* (Tikadar)
 - xxiv. *Telamonia dimidiata* (simon)
7. Sparassidae – Giant Crab Spiders
 - xxv. *Heteropoda venatoria* (Linnaeus)
 - xxvi. *Olios millet* (Pocock)
8. Tetragnathidae
 - xxvii. *Leucauge decorate* (Blackwall)
 - xxviii. *Tetragnatha javanus* (Thorell)
9. Thomisidae – Crab Spiders/Flower Spiders
 - xxix. *Thomisus pooneus* (Tikadar)
 - xxx. *Tmarus kotigeharus* (Tikadar)
 - xxxi. *Xysticus bhadatae* (Gajbe and Gajbe)



Argiope pulchella



Plexippus paykulli

Pholcus phalangioides

Discussion

Total 31 specimens were collected and identified from the study area which is dominated by ground-dwelling spiders like Araneids, Salticids, and Lycosides in the Vijaysinha Yadav College Campus. All the recorded spider species from the study area during July 2023 and October 2023, belonged to 24 genera and 09 families. *Plexipus pykulli* and *Pholcus phalangiodes* are seemed to be abundant in Peth Vadgaon as they are collected in large numbers. The rich diversity of spiders in this area provides a nice opportunity for research and education. Spiders have a very significant role to play in ecology by being exclusively predatory and thereby maintaining ecological equilibrium. An account of the spider fauna of this region and that of Kolhapur district is not done so far. Hence, work on Spiders in this region has a huge scope.

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