

Assortment of Spiders in Agricultural Fields of Tahsil Achalpur, District Amravati.(M. S.)

Dr. Amit B. Vairale

Associate Professor and Head, Department of Zoology,
Ghulam Nabi Azad Arts, Commerce & Science College Barshitakli, District Akola. (M. S.)
vairaleamit1@gmail.com

ABSTRACT

Spiders are one of the most diverse animal groups in the World. Spiders play an important role as stabilizing agents or regulators of insect populations in agro and other terrestrial ecosystems. Thus their presence in an ecosystem may well influence the population dynamics of other arthropods present. Spiders play an important role in insect pest control without any harm to agricultural fields. Recently in agricultural fields reduced pesticide use and ecological sustainability have led to increased interest in spiders as potential natural biological pest control agents.

Spider species abundance in agro-ecosystem can be high as undisturbed natural ecosystem. Spiders act as pest control creature, which feeds on crop destructive insects. Spiders are beneficial bio-control agent of insect pest in agro-ecosystem. A survey of Spiders was carried out in Agricultural Fields of Achalpur, Amravati District during August 2024 – January 2025. During the present study I have reported 204 species of Spiders belonging to 14 Families and 67 genera. Spiders of Families Araneidae, Eresidae, Gnaphosidae, Hersiliidae, Lycosidae, Oxyopidae, Philodromidae, Saltisidae, Scytodidae, Sparassidae, Tetragnathidae, Theridiidae, Thomisidae and Uloboridae were recorded during the investigation. This article presents a study on the distribution and current status of spider families in these agricultural fields of Achalpur, Amravati District.

Keywords: Assortment, Agricultural Fields, Spiders, Achalpur.

Introduction:

Spiders are among the most abundant insectivorous predators of Terrestrial ecosystem. Spiders are one of the most diverse animal groups in the World. Spiders are carnivorous creature. Spider plays an important role in regulating insect pests in the Agricultural Ecosystem. They mostly feed on insects, even though they may also feed on various other kinds of prey. There are 43,425 spider species are found all over the world in almost every kind of habitat. They mainly prey on insects, even though they may also feed on various other kinds of prey.

Spiders are beneficial to human beings in the sense that they feed not only on the pests of agro ecosystem but also the pest of man such as cockroaches, flies, Mosquitoes. In households, a particular spider as the giant crab spider has been known as an effective in controlling cockroaches and other insect pests found in the domestic environment.

They have usually been treated as an important biological control agent, because there is ecological role of spiders in pest control. Use of chemical pesticides has killed natural predators

in the agro ecosystems and also disturbing the natural fauna. Several toxic insecticides and pesticides are recommended to control pests in Agricultural fields.

The constant use of a wide range of pesticides has caused many side effects, like loss of biodiversity, the problem of secondary pests, insecticide resistance, residual toxicity, the recovery of insect pests and Environmental Pollution. Spiders consume a large number of small creatures and do not injure vegetation.

Material and Method:

A survey of Spiders was carried out in Agricultural Fields of Achalpur Tahsil, District Amravati during August 2024 to January 2025. Spiders were collected from different areas of Agricultural Fields. For collection and studying of spiders direct searching, collected by Insect nets, Pit fall trapping. The Spiders Specimens were identified according to Kaston spider book. The photographs were taken in different views, to get the clear eye position, pattern and shades of cephalothorax and abdomen, spines and hairs pattern.

Observation and Result:

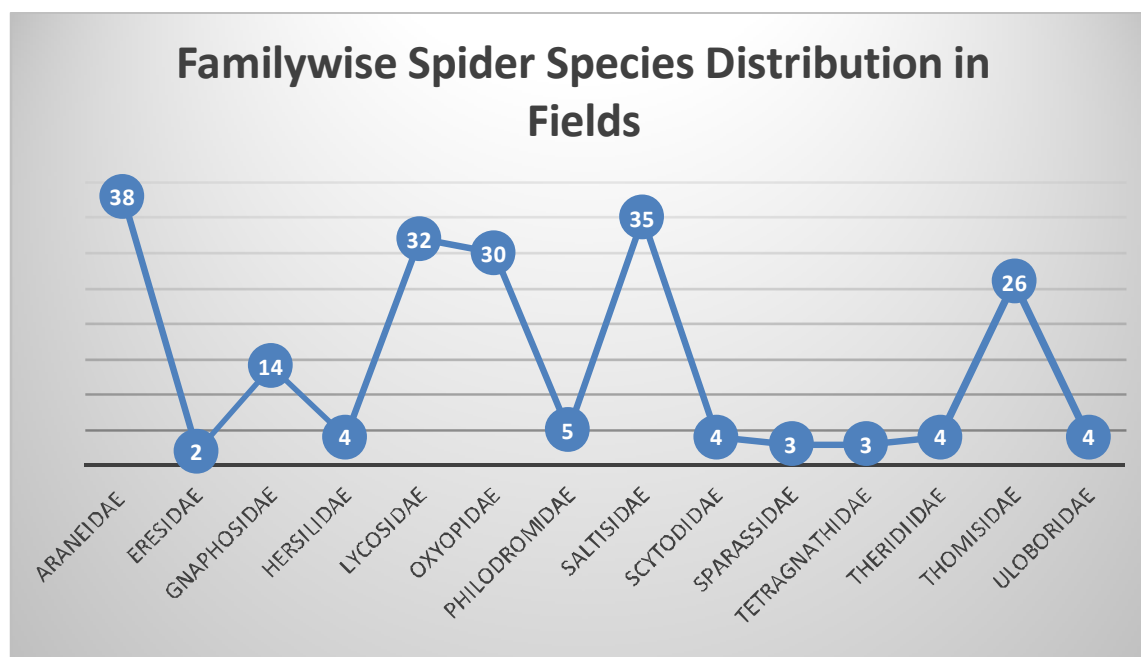
During the present study I have reported **204 Species** belonging to **14 Families** and **67 Genera** of Spiders in Agricultural fields of Achalpur Tahsil, District Amravati, Maharashtra State. Spiders of Families Araneidae, Eresidae, Gnaphosidae, Hersilidae, Lycosidae, Oxyopidae, Philodromidae, Saltisidae, Scytodidae, Sparassidae, Tetragnathidae, Theridiidae, Thomisidae and Uloboridae were recorded during the investigation. For details I have arranging the data in a Table Format.

In my investigation I have seen that the abundance of Five Family Spiders species were more. The Orb waver spiders of Family Araneidae and Jumping spiders of Family Salticidae are widely distributed. The Orb waver spiders of Family Araneidae form web and the insect pest entangled in web spiders feeds on them. The Members of Salticidae directly feeds on insect Pest.

Araneidae>Salticidae>Lycosidae>Oxyopidae>Thomisidae

Sr. No.	Family	Genera	Species
01	Araneidae	17	38
02	Eresidae	01	02
03	Gnaphosidae	05	14
04	Hersilidae	01	04
05	Lycosidae	08	32
06	Oxyopidae	07	30
07	Philodromidae	02	05
08	Saltisidae	10	35
09	Scytodidae	03	04
10	Sparassidae	01	03
11	Tetragnathidae	01	03
12	Theridiidae	04	04
13	Thomisidae	06	26
14	Uloboridae	01	04
Total		67	204

Table1: Genus and Family wise distribution of Spiders in Agricultural Fields of Achalpur Tahsil District Amravati.



Graph 1: Family and Species wise distribution of Spiders in Agricultural fields of Achalpur Tahsil, district Amravati.

Conclusion:

Spider's predatory capacity can have an effect in decreasing densities of insect pests, when they are used to balance the effect of insecticides and Pesticides. Some spiders are among the most effective predators of leafhoppers, caterpillars, and other pests. Aphids are rarely important pests of Cotton. Some Spiders and Spider lings are main control agents of aphids. Due to destroying the pest or insects, spiders are friends of farmer. Most spiders feed on insects that's why productivity of crop gets increased, hence spiders are important Pests control agents. The present work includes the Taxonomic position and list of diversified species of spiders. The major families abundant in these agricultural fields are **ARANEIDAE 38, SALTICIDAE 35, LYCOSIDAE 32, OXYOPIDAE 30 and THOMISIDAE 26.**

References:

1. **Bhattacharya, G. C. (1941b)** The food and habitats of the horse spider *Heteropodavenatoria*. *Jour. Bombay nat. Hist. Soc.* (42), 821.
2. **Kaston, B. J. (1970)** How to know Spiders. *M. W. C. Brown Company publishers, U. S. A.* 212 pp.
3. **Platnick, N. I. (1993)** Advances in spider taxonomy 1988-1991, with synonymies and transfers 1940-1980. *New York.* 846 pp.
4. **Matthew H. Greenstone (1999)** Spider Predation: How and why we Study it, *The Journal of Arachnology* 27:333-342.
5. **Platnick, N. I. (2009)** The world spider catalog, version 9.5. American Museum of Natural History.



-
6. **Jeyaparvathi S., Baskaran S. and Bakavathiappan G. (2013)** Biological control potential of spiders on the selected cotton pests Int. J. of Pharm. & Life Sci. (IJPLS), Vol. 4, Issue 4: April: 2013, 2568-2572.
 7. **Lawania K. and Mathur P. (2017)** Biodiversity and habitat preference of Spider fauna in Eastern region of Rajasthan and its catchment Area. International Journal of Scientific Development and Research (IJSDR), Volume 2, Issue 6.
 8. **Deshmukh U. S. (2018)** Spider diversity of Salbardi forest and upper Wardha Dam Amravati, India. Bioscience Biotechnology Research Communication 11(4) 687-690.
 9. **Veeramani A, Gayathri R, Ravichandran S, and Sivaperuman C. (2021)** Spiders assemblage in the Cauvery Delta Region, Tamil Nadu, India. Journal of emerging technologies and innovative Research (JETIR), Volume 8, Issue 8.