Royal International Global Journal of Advance and Applied Research
Peer Reviewed International, Open Access Journal.
ISSN: 2998-4459 | Website: https://rlgjaar.com Volume-2, Issue-2 | February - 2025

Original Article

Multiplicity of Spiders in Agricultural Fields of Tahsil Khamgaon, District Buldhana (M. S.)

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Manuscript ID:
RIGJAAR-2025-020211

ISSN: 2998-4459

Volume 2

Issue 2

Pp. 39-41

February 2025

Submitted: 12 Jan. 2025

Revised: 19 Jan. 2025

Accepted: 17 Feb. 2025

Published: 28 Feb. 2025

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Quick Response Code:

Web. https://rlgjaar.com

DOI:
10.5281/zenodo.21887017

DOI Link:
https://doi.org/10.5281/zenodo.21887017

Abstract

Spiders are widespread and diverse predators that are part of terrestrial Arthropod assemblages. 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 agricultural fields. 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. Significantly insect populations increases when release from predations by spiders. Repeatedly use of pesticides in agricultural fields which declines the spider populations. Spider species abundance in agricultural fields 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 agricultural fields. A survey of Spiders was carried out in Agricultural Fields of Khamgaon, Buldhana District during July 2024 – December 2024. During the present study I have informed 189 species of Spiders belonging to 14 Families and 68 genera. Spiders of Families Araneidae, Eresidae, Gnaphosidae, Hersilidae, Lycosidae, Oxyopidae, Philodromidae, Saltisidae, Scytodidae, Sparassidae, Tetragnathidae, Theridiidae, Thomisidae and Uloboridae were recorded during the investigation. This article presents a study on the spreading and current status of spider families in these agricultural fields of Khamgaon tahsil, Buldhana District.

Keywords: *Multiplicity, Agricultural Fields, Spiders, Khamgaon.*

Introduction

Spiders are one of the most diverse animal groups in the World. Spiders are among the most abundant insectivorous predators of Agricultural fields. Spiders are carnivorous creature. Spider plays an important role in regulating insect pests in the Agricultural fields. They mostly feed on insects, even though they may also feed on various other kinds of prey. There are 43,537 spider's 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 Cotton field. These chemicals insecticides and pesticides are destroying the vegetation. 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 Khamgaon Tahsil, District Buldhana during July 2024 to December 2024. Spiders were collected from different areas of Agricultural Fields. For collection and studying of spiders direct searching, collected by Insect nets, Pit fall trapping, beating steak and umbrellas were used.

How to cite this article:
Vairale, A. B. (2025). Multiplicity of Spiders in Agricultural Fields of Tahsil Khamgaon, District Buldhana (M. S.). Royal International Global Journal of Advance and Applied Research, 2(2), 39–41. https://doi.org/10.5281/zenodo.21887017

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ISSN: 2998-4459 | Website: https://rlgjaar.com Volume-2, Issue-2 | February - 2025

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:

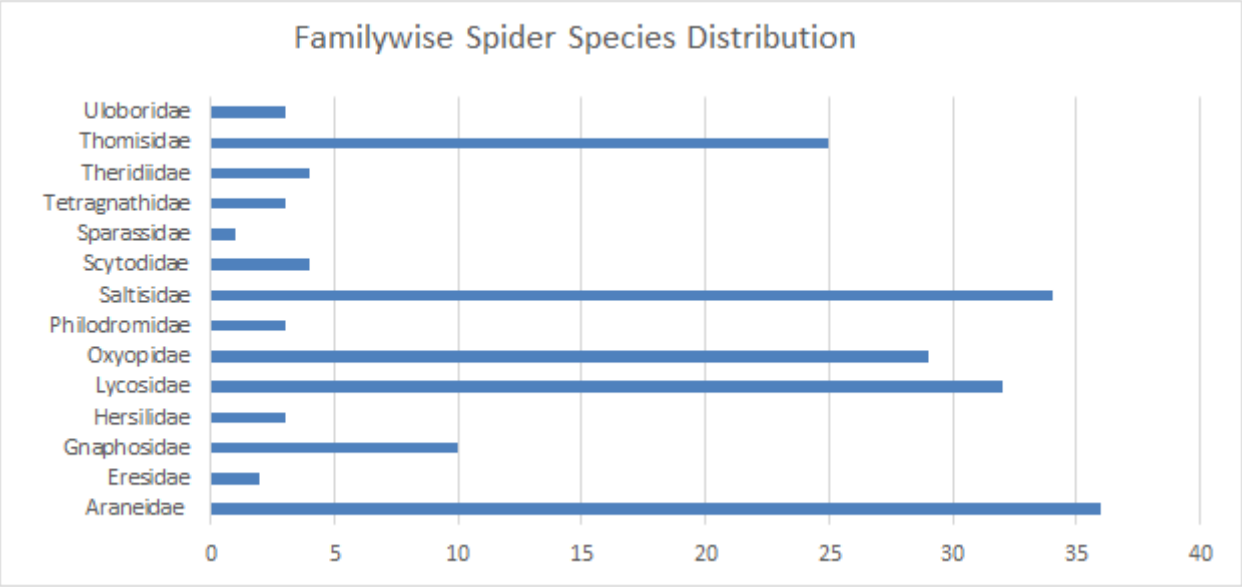
During the present study I have reported 189 Species belonging to 14 Families and 68 Genera of Spiders in Agricultural fields of Khamgaon Tahsil, District Buldhana, Maharashtra State. Spiders of Families Araneidae, Eresidae, Gnaphosidae, Hersilidae, Lycosidae, Oxyopidae, Philodromidae, Saltisidae, Scytodidae, Sparassidae, Tetragnathidae, Theridiidae, Thomisidae and Uloboridae were recorded during the investigation. For details I have arranging the data in a Table Format of systematic way.

In my investigation I have seen that the abundance of Five Family Spiders species was 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 36 >Salticidae 34 > Lycosidae 32 > Oxyopidae 29 > Thomisidae 25.

Sr. No.	Family	Genera	Species
01	Araneidae	16	36
02	Eresidae	01	02
03	Gnaphosidae	04	10
04	Hersilidae	01	03
05	Lycosidae	10	32
06	Oxyopidae	08	29
07	Philodromidae	02	03
08	Saltisidae	12	34
09	Scytodidae	02	04
10	Sparassidae	01	01
11	Tetragnathidae	01	03
12	Theridiidae	02	04
13	Thomisidae	07	25
14	Uloboridae	01	03
Total		**68**	**189**

Table 1: Genus and Family wise distribution of Spiders in Agricultural Fields of Khamgaon Tahsil, District Buldhana.



Graph 1: Family and Species wise distribution of Spiders in Agricultural fields of Khamgaon Tahsil, district Buldhana

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 spider's feeds 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 36, SALTICIDAE 34, LYCOSIDAE 32, OXYOPIDAE 29 & THOMISIDAE 25.

Acknowledgment

The author expresses sincere gratitude to the Principal and management of Ghulam Nabi Azad Arts, Commerce & Science College, Barshitakli, for providing the necessary facilities and institutional support to carry out this research work.

The author is also thankful to colleagues from the Department of Zoology for their valuable suggestions and encouragement during the study.

Financial support and sponsorship

Nil.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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