

Prey of the Green Lynx Spiders (Peucetia Viridana)

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Abstract

Spiders are important constituents of the natural enemy complex of pests in agricultural fields. Spiders are usually animals that hunt and eat insects. Although they have a variety of foods, *Peucetia viridana* eat harmful insects. Spiders are important constituents of the natural enemy complex of pests in agricultural fields. However, despite its known importance in agriculture, its contribution to pest control is still largely unnoticed.

Keywords: Agriculture, Harmful, Natural, Pests, Spiders

Introduction

The role spider's play in the natural biological control of agricultural pests has received limited investigation [1]. The four important roles of spiders in the agroecosystem were outlined by and include: a) spiders prey on destructive insects; b) spiders serve as food for other predators; c) since spiders tend to be general feeders, they are enemies of beneficial insects; and d) spiders compete with insect predators for prey [2-4]. (Reported, that in orchards, members of the Salticidae, Thomisidae and Theridiidae were the most numerous spider species [5]. Indicated that in alfalfa the Lycosidae, Erigonidae, and Tetragnathidae were the dominant spider families. Only in recent years has the role of spiders as important components of arthropod communities been recognized, and considerable interest has been displayed in the analysis of spider predation in natural ecosystems [6]. Knowledge of actual diet for a particular species of spider is a primary requisite before the impact of spider predation on arthropod communities can be correctly assessed. However, with the exception of studies by, relatively little in-depth, quantitative field work has been conducted on spider prey [7]. Lynx spiders differ in vegetation types selected for the webs, heights at which webs are placed within vegetation and in some cases, types of prey taken [8]. This investigation was conducted not only to add to the list of known prey of the green lynx spider, but to evaluate how harmful or beneficial those prey were there by documenting the effect this spider may have as an economically important predator. The data presented here resulted from a study on the patterns of species co-existence in a guild of raptorial spiders [9]. Which included four species of Thomisidae and one species of Oxyopidae, *Peucetia viridans* (Hentz). It is the purpose of this paper to examine the natural diet of the oxyopid, *P. viridans*, ascertain if a correlation exists between predator size and prey size.

Methods

Peucetia viridana were observed in the field of closed forest areas and agricultural areas fields from September 2017 to June 2019

at The Nilgiris. The dominant vegetation is composed of several species viz... Tea, grassland, bushes. Because *P. Viridans* often blends cryptically with the plants in habitats with agrifields. When a spider was observed in the field of Nilgiris despite other areas of habitats with a prey item. Prey specimens were preserved in 70 % alcohol in the lab of institutions. Specimens were carried to the laboratory for measurement and prey identification. To determine relative feeding specialization, niche breadth of prey species was calculated for *P. viridans* using Levins, method.

Natural History

Cephalothorax longer than wide, moderately high with brown spots, cephalic region high and broad, clothes with a few spines, centre with deep fovea, which is greenish in color. The green lynx, *P. viridians*, is a large, non-web-spinning spider with long, conspicuously spines legs. This species lives among low bushes and herbaceous vegetation and adult females can often be found on flowers where they lie in ambush for potential prey. Once a food item has been captured the spider retreats down into the vegetation or to the underside of the flower head to consume its prey. Spiders digest their prey externally in a process which often lasts several hours Common in hairy grass fields during daytime and show some degree of host plant preference or association.

Result and Discussion

Result of the identification and evolution of the 14 prey items collected from *P. viridans* are listed in table 1. Referring to the green lynx spider, stated predicted from their local abundance, the lynx spider are among the major Predators if insects occurring in the low shrubs and herbs vegetations [10]. Finally the data collected in this investigation indicate that the green lynx spider in counterproductive as a predator of economically important insects since it takes beneficial insects as prey more often than it takes harmful insects. More extensive investigations, including data in the relative abundance of prey species, are needed to indicate that the green lynx spider is a possible biological control agent.

Table: 1 List of prey of green lynx spider

S.No	Common name of Prey	No. sp	-3	-2	-1	0	+1	+2	+3
1	Aphids	2				*			
2	Jassids	3			*				
3	Ants	3		*					
4	Whiteflies	2			*				
5	Nymphs of Grasshopper	2						*	
6	Dipterans	1							*
7	Insect eggs and weevils	1					*		
	Total	14		3	5	2	1	2	1
	%			21	35	15	7	15	7

Speculation on the potential utility of spiders as biological control agents has been great. Before the economic potential of spiders can be accurately determined quantitative and qualitative field prey data must be collected and evaluated. Qualified evaluation of economic importance, harmful or beneficial, or all prey taken by a spider must be included in any prey investigation. Without such data, conclusions on the usefulness of spiders as biological control agents, negative or positive, or their role in insect pest regulation will be misleading.

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