

A review on Pollinators diversity on coriander

Deepayan Padhy¹, Rishav Chatterjee², Durgadatta Meher³

¹ Scholar, Department of Agricultural Entomology, M. S. Swaminathan School of Agriculture, Centurion University of Technology and Management, Paralakhemundi, Odisha, India

² Student, Department of Agricultural Entomology, M. S. Swaminathan School of Agriculture, Centurion University of Technology and Management, Paralakhemundi, Odisha, India

³ Assistant Professor, Department of Genetics and Plant Breeding, M. S. Swaminathan School of Agriculture, Centurion University of Technology and Management, Paralakhemundi, Odisha, India

Abstract

In the present review the Pollinators diversity on coriander has been reviewed. Among different orders Hymenoptera found to be the dominant one followed by order Diptera and Lepidoptera. Very few species of Coleopterans are also found to be associated with this crop. Among family, Apidae from Hymenoptera, Syrphidae and muscidae from Diptera, Pieridae from Lepidoptera and coccinellidae from coleopteran was the dominant one. From the present study we can understand that coriander as a smaller flower but it still attract a wide variety of species from different families of different orders.

Keywords: Pollinators diversity, coriander

Introduction

Coriandrum sativum L. commonly known as Coriander from family Apiaceae (Umbelliferae) grown as annual herbaceous plant having chromosome no, $2n=22$. This plant is native of Europe to South-western Asia. India is the largest producer, highest consumer and biggest exporter country in the world. Being a annual flowering plant, the review has been made to understand the diversity of pollinators in different parts of India at different times.

Result and Discussion

Sharma and Meena (2019) revealed that the coriander flowers attract 28 different insect species belonging to six different order and fourteen families. Order wise, Hymenoptera order is the most dominant one followed by Diptera, Lepidoptera, Hemiptera, Coleoptera and Neuroptera.

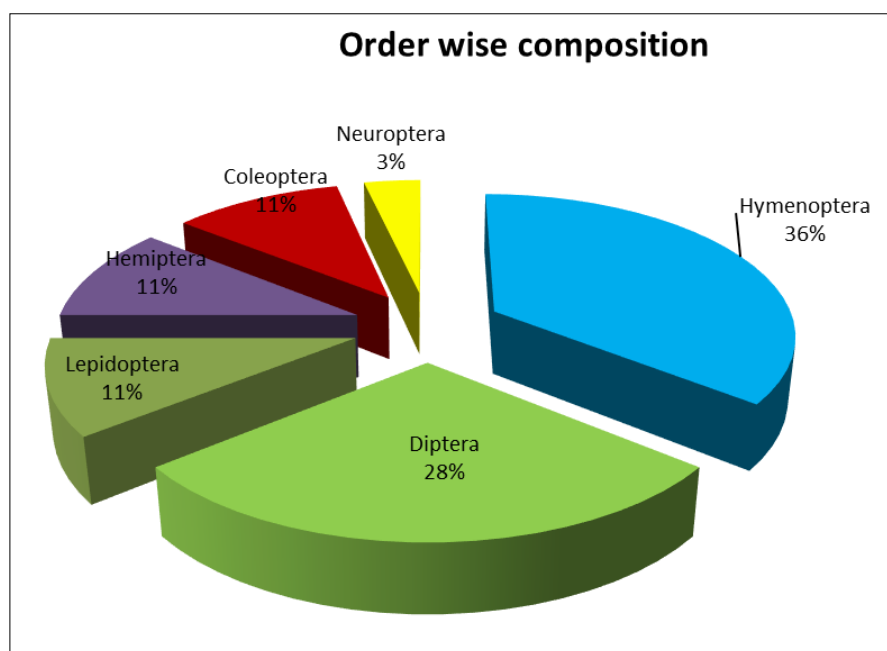


Fig 1

Among families, Apidae, Muscidae and Syrphidae are most dominant one (4 species) followed by family Coccinellidae (2) and other families each contributing one species each.

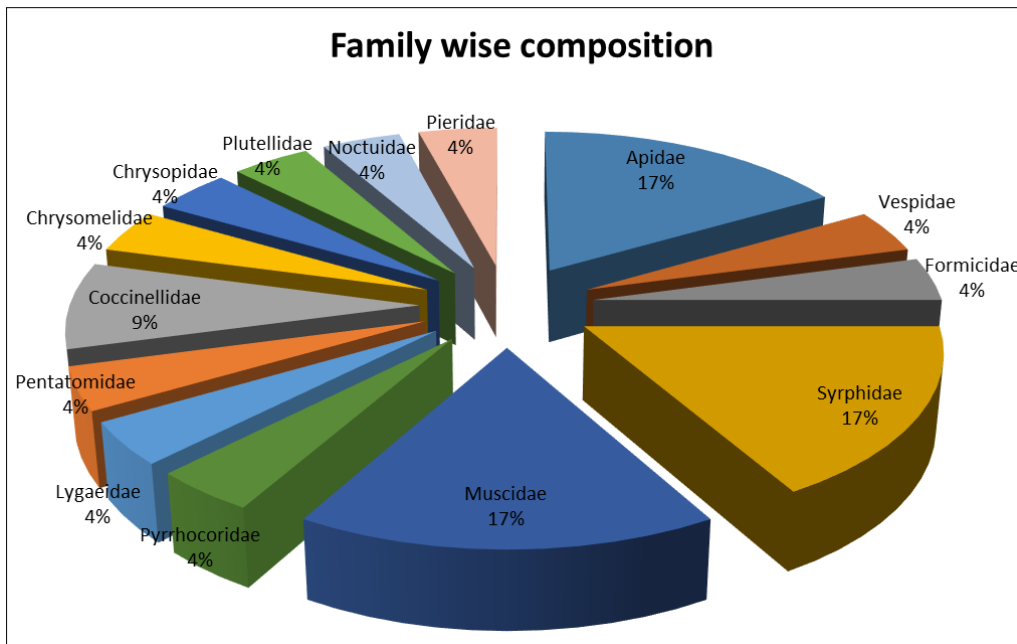


Fig 2

Order Hymenoptera was representing 10 species where family Apidae, *Apis dorsata*, *Apis florea*, *Apis mellifera*, *Trigona* sp. were the pollinators whereas *Polistes hebraeus* of Vespidae; *Camponotus* sp. of Formicidae and 4 species of unidentified hymenoptera from different families has been recorded. Order Diptera was consisting of 8 species followed by Lepidoptera (3), Hemiptera (3), Coleopteran (2) and Neuroptera (1). Shivasankar et al. in 2016 has recorded 19 different species of pollinators visiting coriander flowers which were belonging to 8 families of 5 different orders. Among orders Hymenoptera (37 %) was the most dominant one followed by Diptera (32 %), Lepidoptera (16 %), Coleoptera (10 %) and Hemiptera (5 %)

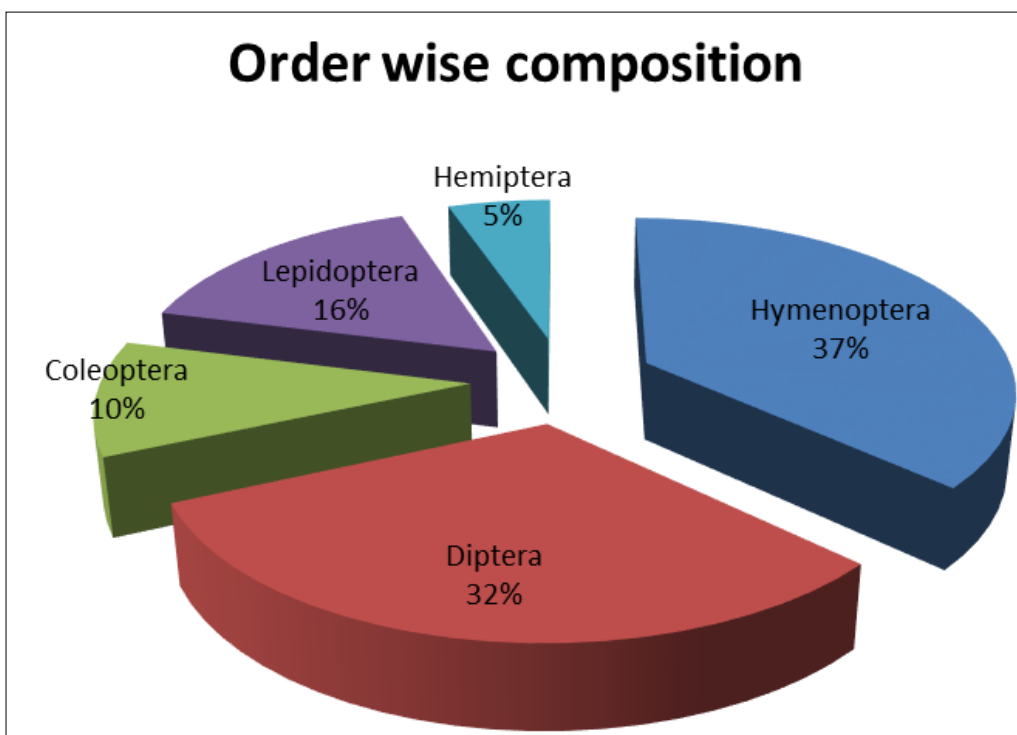


Fig 3

Family wise family Apidae was the most dominant one from the order followed by family Syrphidae from order Diptera, Pieridae from order Lepidoptera, family Muscidae and Coccinellidae from order Diptera and coleopteran respectively followed by family Vespidae, Tipulidae and Lygaeidae each contributing one insects.

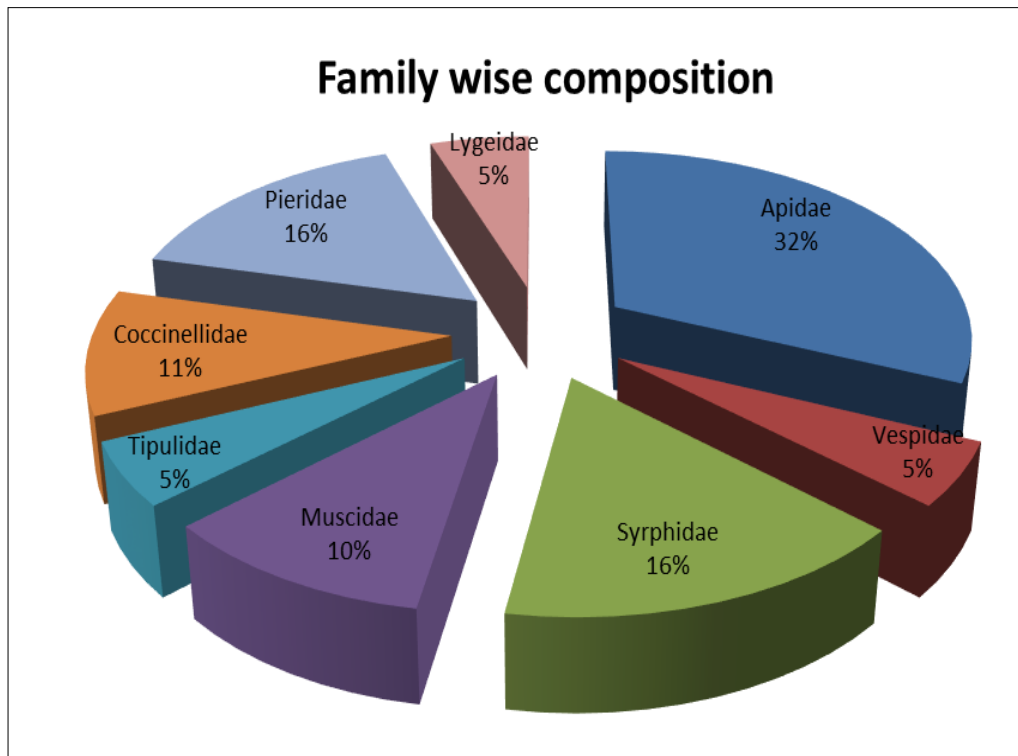


Fig 4

Choudhary and Singh in 2007 in their studies carried out at Haryana reported the 34 insect belonging to 18 families of 8 different orders visiting on coriander flower ecosystem. Among the orders, Diptera was the most dominant one followed by Hymenoptera, Lepidoptera, Coleoptera, Heteroptera, Zygotera and spider.

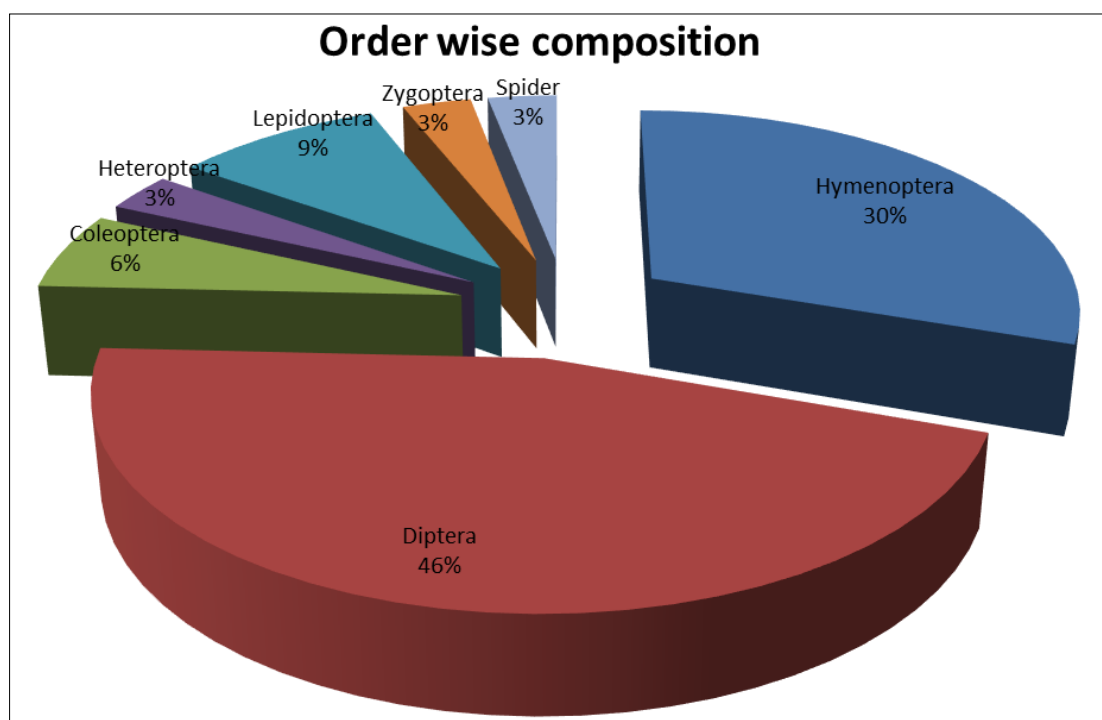


Fig 5

Similarly, Arya *et al.* in 1994 recorded 20 species of insect pollinators, of which 12 belonged to Hymenoptera, 5 to Diptera and 3 to Lepidoptera. Singh *et al.* (2010) also found those honeybees; stingless bees, many kinds of flies; moths and other insects on coriander to play an important role in pollination of the crop also supported the present findings.

References

1. Kapil Sharma, NK Meena. Diversity of insect pollinators in coriander (*Coriandrum sativum* Linn.) VAR. ACR-1 under Semi-Arid region of Rajasthan. Journal of Pharmacognosy and Phytochemistry,2019;8(2):198-201
2. Shivashankara RM Srivastava, ARNS Subbanna, Joni Kumar, Sandip P. More. Diversity of Insect Pollinators and Foraging Behavior of Native Honey Bees on Coriander. Environment & Ecology,2016;34(4):1315-1319.
3. Chaudhary P, Jage Singh. Diversity, temporal abundance, foraging behaviour of floral visitors and effect of different modes of pollination on coriander (*Coriandrum sativum* L.). Journal of Spices and Aromatic Crops,2007;16(1):8-14
4. Arya DR, Sihag RC, Yadav PR. Role of insect pollination in seed yield of sunflower (*Helianthus annuus* L.) Indian Bee Journal,1994;56(3/4):179-182.
5. Singh H, Swaminathan R, Hussain T. Influence of certain plant products on the insect pollinators of coriander. Journal of Biopesticides,2010;3(1):208-211.